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STATUS OF THE NATION'S WETLANDS AND LAWS RELATED THERETO

(101-69)

HEARINGS

BEFORE THE

SUBCOMMITTEE ON WATER RESOURCES

OF THE

COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION

HOUSE OF REPRESENTATIVES

ONE HUNDRED FIRST CONGRESS

FIRST AND SECOND SESSIONS

APRIL 12, 1989 (WASHINGTON, DC)
APRIL 14, 1989 (ST. CLOUD, MN)
APRIL 18, 1989 (WASHINGTON, DC)
MAY 12, 1989 (LAKE CHARLES, LA)
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THE STATUS OF THE NATION'S WETLANDS AND LAWS RELATED THERETO

WEDNESDAY, APRIL 12, 1989

House of Representatives,
Subcommittee on Water Resources,
Committee on Public Works and Transportation,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:34 a.m., in room 2167, Rayburn House Office Building, Hon. Henry J. Nowak (chairman of the subcommittee) presiding.

Mr. Nowak. The subcommittee will come to order.

The Subcommittee on Water Resources today meets to begin a series of hearings on the status of our Nation's wetlands resources and laws related thereto.

This committee has a longstanding interest in wetlands-related issues, particularly those related to programs under the Federal Water Pollution Control Act. Wetlands sustain nearly one-third of our Nation's endangered species. They provide breeding and wintering grounds for waterfowl and shore birds.

Coastal wetlands provide important nursing and spawning grounds for the majority of the U.S. fish catches. Wetlands also provide benefits by lessening flood damage, reducing erosion, recharging groundwater, filtering sediment, and abating pollution.

The U.S. Fish and Wildlife Service has estimated that over one-half of the wetlands existing in the lower 48 States at the time of the European settlements no longer exist.

The recently completed final report of the National Wetlands Policy Forum of the Conservation Foundation recommended an interim goal of no overall net loss of remaining wetlands and a long-term goal of increasing the quantity and the quality of our Nation's wetlands.

The U.S. Environmental Protection Agency recently announced that it had adopted a goal of no overall net loss of wetlands and, where feasible, of increasing the quality and quantity of wetlands. In addition, the President has indicated a commitment to the preservation of our Nation's remaining wetlands and a need for a coordinated Federal wetlands policy.

In 1972, with the enactment of the Federal Water Pollution Control Act amendments, the Federal Government established a regulatory program to restore and maintain the integrity of our Nation's waters. That law requires that any person who discharges pollutants or dredged or fill material into a water of the United States must have a permit. The discharge of pollutants is controlled under section 402 and permits issued under that authority by either EPA or the State, if the State has an approved permitting program.

This program can assist in avoiding the chemical alteration of wetlands which occurs when nutrient levels are changed or toxics are introduced. The discharge of dredged or fill materials is controlled under section 404 and permits issued under that authority by the Secretary of the Army. Under the section 404 program, the Environmental Protection Agency develops guidelines for the issuance of the permits and has authority to review those permits.

Section 404 applies to waters of the United States, which include wetlands such as swamps, marshes, bogs, and even areas which often appear as dry land but consist of soil saturated by surface or groundwater sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions.

Although this program is far reaching in its application, it has been insufficient to operate as a wetlands preservation and protection program, because only dredged and fill activities are regulated.

The preservation of our Nation's waters and related resources requires the Federal Government and the States to commit to a long-term protective program including wetlands.

The subcommittee will receive testimony on a broad range of Federal programs so that we may achieve the broadest understanding possible of the current situation and the implementation of those existing programs. In addition to the U.S. Army Corps of Engineers, the Environmental Protection Agency, and the Conservation Foundation, which will testify today, we will receive testimony from the Departments of Agriculture, Interior, and Commerce concerning wetlands-related programs within their jurisdiction at our April 19 hearings.

Subsequent hearings will be scheduled to accommodate the interests of Members of Congress, State and local governments, the regulated community, the environmental interests, and the general public.

At today's hearings, we will be receiving testimony from Mr. William Reilly, the Administrator of the Environmental Protection Agency; Mr. John Doyle, the Principal Deputy Assistant Secretary of the Army for Civil Works; and representatives of the National Wetlands Policy Forum.

Before we begin with our first witness, I yield to the distinguished ranking Republican member of the subcommittee, Arlan Stangeland from Minnesota, for whatever opening remarks he chooses to make at this time.

Mr. Stangeland.

Mr. STANGELAND. Well, thank you, Mr. Chairman.

Before I make my remarks, I would yield to the distinguished ranking Republican of the full committee, the gentleman from Arkansas, Mr. Hammerschmidt.

Mr. HAMMERSCHMIDT. I thank the gentleman for yielding and thank you, Mr. Chairman.

I am pleased that today we begin a series of hearings on the problems of our diminishing wetlands. As everybody on this committee knows, and I am sure most everybody in this room knows, in recent years wetlands protection has become an issue that has engendered much heated debate and controversy.

According to the report which we will be examining today, this controversy is due in large part to the fact that, as the book says, protection of wetlands makes good economic as well as environmental sense for society but not necessarily for the individual owning them.

Now, because of the rising tensions surrounding the wetlands issue and the growing evidence of a need to develop a better wetlands management policy, former EPA Administrator Lee Thomas asked the Conservation Foundation to assemble a Wetlands Policy Forum to examine the problem and report on ways to address it.

The fact that the Forum's report on wetlands protection initiatives has the support of resource development and resource preservation interests and a variety of Federal and State agencies is a tribute to the hard work and innovation of all those who participated. So I commend the efforts of all who participated in the preparation of the report.

In particular, I want to thank and congratulate the former president of the Conservation Foundation, Bill Reilly, for his ability to bring together many divergent viewpoints. Mr. Reilly played a masterful role in organizing the Forum, giving it the support and direction needed to allow the competing interests to find compromise positions. That skill, I am sure, will serve him in good stead in his new job as Administrator of the Environmental Protection Agency.

Today's hearing presents the Administrator his first opportunity to appear before our committee, so I want to extend a most heartfelt welcome on behalf of all the members of the committee. Given his very busy schedule, Mr. Reilly's appearance today is a clear reflection of his commitment and the commitment of this administration to work with the Congress to find common-sense solutions to pressing environmental problems.

Although masterful in terms of bringing together many differing perspectives, the Forum's report represents only a beginning. There is much work yet to be done. Many of the Forum's recommendations represent broad policy initiatives around which all of us can rally. However, these policy initiatives may prove very difficult to implement or even to define.

It is my understanding that the Forum is continuing its work through a number of implementation task forces, and these task forces provide an opportunity to bring together various competing interests with respect to specific recommendations of the Forum's report and to develop more detailed proposals for implementation by the administration or the Congress. I strongly encourage the members of the Forum to continue their work through these task forces and to keep the committee apprised of their progress.

Today's hearing begins a congressional process that may ultimately result in a comprehensive wetlands bill. It is my hope and belief that in this committee's tradition of inclusion and accommodation, coupled with bipartisan innovation and hard work, we will be able to forge a truly comprehensive wetlands policy that ensures protection of the resource consistent with continued economic growth and protection of important private property rights.

With that, Mr. Chairman, I will close my comments, and I again want to welcome Mr. Reilly and also, while I have the floor, to acknowledge another witness that is coming up, the Principal Deputy Assistant Secretary of the Army for Civil Works, John Doyle, who is no stranger to this committee or to this hearing room, and the other witnesses whom we will be hearing from today.

Thank you for yielding.

Mr. STANGELAND. I am more than happy. Thank you.

Thank you, Mr. Chairman.

First let me say I appreciate your willingness to schedule today's hearing on wetlands protection, one of the Nation's most important environmental and economic issues.

As you stated, today's hearing will focus on recommendations of the National Wetlands Policy Forum.

The term "wetlands" and the phrase "no net loss" are getting a lot of attention these days. They are rapidly becoming the environmental buzz words of the eighties. You hear them used daily, particularly with the recent publicity from the Wetlands Policy Forum and the new administration. But when we step back for a bit, we realize they are not really new terms at all.

These hard-to-define areas where land and water meet may be called garbage swamps by some and water meadows by others, but regardless of what you call them, they have been around for centuries. But the goal of no-net-loss has been incorporated, at least to some extent, in various programs for years, although not on a national basis.

Personally, I am very familiar with the issues and have been for quite some time, partly because I am a Minnesotan, partly because I am a farmer, and partly because I am an outdoorsman. My State includes the Prairie Pothole region, an area of great ecological importance and concern. It is a testing ground, I guess, for those who want to do battle on the regulatory front.

And in my State, where there are tens of thousands of miles of agricultural drainage ditches, you could say that "trench warfare" is currently being waged between those who merely want to maintain ditches and those who want to take drastic steps to protect wetlands regardless of the other costs and individual burdens.

In Minnesota, the land of 6 million acres of wetlands, we are blessed with great hunting and fishing, scenic and recreational areas. As a national trustee of Ducks Unlimited, I take seriously our responsibility to be good stewards of waterfowl and other natural resources.

The existing regulatory framework has been the focus of extensive debate and, I might add, some justified criticism. Both the regulated community and the environmental groups have attacked the Corps and EPA for their implementation of the Clean Water Act's section 404 program. Concerns include the program's complexity, the broad definition of wetlands, the inconsistency among agencies, the lengthy permit delays, and the inadequate and unfair policies on exemptions and enforcement.

Admittedly, part of the problem involves the lack of funding and the number of players with different regulatory missions and objectives. But also, in their effort to protect wetlands, Federal and

State environmental regulators are challenging established property rights and basic notions of fairness.

That is why I am pleased to see the National Wetlands Policy Forum report and the serious attention it is getting. Only through consensus-building and participation from all the players can we increase our wetlands base, while decreasing current frustrations and inadequacies with the Clean Water Act, Swampbuster, and other programs.

The report will also help Congress to focus on some of the far-reaching proposals including the State assumption of the Corps' 404 program, reduced impacts of Federal public works projects, and the creation of preservation trusts.

I hope today's hearings and our series of other hearings shed light on the need to refine the regulatory programs while creating private incentives for greater protection and increasing public education. Perhaps after the continued public debate, we will all be able to agree on and understand more clearly what "wetlands" and "no-net-loss of wetlands" really mean, and what impacts the Forum's recommendations could have on agriculture, the economy, and society in general.

Mr. Chairman, I will conclude at this point by extending a hearty welcome to our distinguished witnesses. I know I speak for everyone on our committee when I congratulate Mr. Reilly on his new post and wish him the best in his many environmental challenges ahead. We look forward to working with him on this issue and other issues that will come before this committee.

This committee, with its jurisdiction of the Clean Water Act and Superfund, will be certainly watching the Alaskan oil spill cleanup and the status of this Nation's various groundwater and hazardous waste programs.

Of course, it is always a pleasure to see John Doyle, one of this committee's most distinguished staff alumni. We welcome him back to the committee today.

With that, Mr. Chairman, I am prepared to hear the witnesses.

Mr. NOWAK. I thank the gentleman.

We have some requests for brief opening statements from my right, and let me call on, first of all, the gentleman from New Jersey, Mr. Pallone.

Mr. PALLONE. Thank you, Mr. Chairman.

I want to start out by commending Mr. Reilly for focusing attention on the wetlands issue because I think that it is only if the administration, brings it into the spotlight that we are going to see some action on the issue.

I am also pleased to see Brenda Davis, who is here today from Governor Kean's office in New Jersey. She was very influential in putting together a fresh water wetlands bill that we passed last session in the State of New Jersey that is far reaching.

With that, though, I have to say that I am concerned that the National Wetlands Policy Forum proposals do fall short of adequate wetlands protection. Particularly, I am concerned about the fact that the no-net-loss policy in many ways may not go far enough if it means that artificial wetlands can be created in lieu of preserving natural wetlands.

I mention that because of my own experience, having seen what artificial wetlands mean in the State of New Jersey. Oftentimes they are created in situations where a developer has gone in and basically destroyed a wetlands without having obtained a permit. Then later, because a citizens' group finds out that the permit was not obtained, the developer has to go before the State and get a permit, which includes creating artificial wetlands because there are no longer natural wetlands.

I have not seen, myself, that artificial wetlands are really adequate. If the no-net-loss policy means that in some way we may be encouraging artificial wetlands, even as a last resort, I am concerned about that.

I am also concerned about enforcement. As I mentioned before, too often in New Jersey we have had, although I think it is improving, a problem with enforcement of permits with regard to wetlands. As I said, it often is the case that a permit is obtained after the fact.

I would like to know specifically during the course of this debate what we are going to do in terms of increased enforcement, because I really think that that is often a problem.

I am also concerned about the possibility that the Forum is proposing delegation of wetlands protection responsibilities increasingly to the State. We in New Jersey through the intervention of Governor Kean, Brenda Davis and some of the other people in the administration, ended up with what I consider a fairly good wetlands bill. However, it was very difficult to obtain that. There were a lot of forces in the State that worked against it.

I am concerned that if a lot of wetlands protection responsibilities end up being delegated to the States, that in many cases the forces that are against wetlands protection will win out. I think we probably would be better off if we have most responsibilities taken primarily on the Federal level.

I would also like to discuss today the possibility of transferring responsibilities that now exist with the Army Corps to the EPA. I do believe that the EPA, particularly with an administrator like Mr. Reilly, is better able to deal with environmental concerns involving wetlands protection. I may end up asking some questions specifically about that.

I want to conclude by saying that I think the people testifying today are primarily concerned that we do have an excellent wetlands protection program. I think it is only because you are bringing attention to the issue that we are going to see, in the long run, adequate wetlands protection.

Thank you, Mr. Chairman.

Mr. **Nowak**. Thank you very much.

Let us now turn to the gentleman from Idaho, Mr. Craig.

Mr. **Craig**. Thank you very much, Mr. Chairman.

Like the other members of this committee, let me especially thank you for bringing this issue before the committee in a series of hearings that I hope will build a national policy and bring into a more cohesive approach current and existing law that provides some protection of our wetland resources.

I am also extremely pleased to have the Administrator of EPA before us today. Obviously, they will play a valuable role in this process of protection.

My only concern, Mr. Chairman, in the course of our hearings, in the course of any action that this committee and, ultimately, Congress and our government might take in the wetlands issue, is that we are a Nation of private property owners. We are a Nation in which many of these issues have resided with the States and, in my opinion, should continue to do that.

I think it is important that we remember as we work our will here that oftentimes incentives created are a good deal better than punitive enforcement measures that only progressively erode those concepts of private property and those values to our Nation as we work to preserve these valuable natural resources.

I would hope that our committee will move in a direction recognizing those values, recognizing the State's role and its responsibility and understanding that through incentive, oftentimes, we will be much more successful, as I think the ranking member of this committee mentioned in his role with Ducks Unlimited, that incentives oftentimes are really the paving of the way to a much broader policy of understanding and acceptance than punitive laws that arbitrarily enforce and take away rights.

Thank you very much, Mr. Chairman.

Mr. NOWAK. Thank you very much.

We will now turn to the gentleman from Texas, Mr. Laughlin.

Mr. LAUGHLIN. Thank you, Mr. Chairman.

Your commitment to work for a long-term protective program for our Nation's wetlands is greatly appreciated.

As you know, there are three major wetland areas in my district: the San Bernard Wildlife Refuge, the Smith Marsh, and the Port Aransas National Wildlife Refuge. The action taken by this committee will determine the future of each of these areas.

I certainly recognize that the wetland erosion problem is very serious. However, if we are to be effective, wetlands programs require a sound information base and a good public understanding of their purpose and operation.

The hearing today is the first step, and I look forward to learning more about the problem from the witnesses gathered here today, and Mr. Reilly, we thank you very much for being here. I am a member of Ducks Unlimited, also, and I want to see our habitat protected.

Thank you, Mr. Chairman.

Mr. NOWAK. Thank you very much.

We will turn to the gentleman from Tennessee, Mr. Clement.

Mr. CLEMENT. Mr. Chairman, I will submit my remarks for the record, please.

Mr. NOWAK. We appreciate that, and all others will have the same opportunity.

[Mr. Clement's prepared statement follows:]

STATEMENT OF REPRESENTATIVE BOB CLEMENT

Thank you Mr. Chairman. I am very excited to be a member of your subcommittee. I look forward to working with you on issues such as the one before us today, the status of our Nation's wetlands, and also the numerous others that fall within the jurisdiction of your committee.

As you may know, my experience before I was elected to Congress gives me an unusual perspective on many of the areas that fall within the jurisdiction of the Water Resources Subcommittee. I am the former chairman of the Tennessee Public Service Commission and also served as a member of the Tennessee valley Authority board of directors in working with you on matters affecting TVA and the Tennessee Valley.

Let me congratulate you on putting together what will be an extensive study of the problems facing our Nation's wetlands. As a sportsman I am very concerned with the drastic decline of our country's wetlands which serve as prime habitat for much of our waterfowl. This is indeed a serious problem and one that must be addressed soon.

From the outset however, I should like to point out that the final report of the wetlands policy forum represents a difficult and delicate consensus, arrived at gradully, with much give and take on the part of all involved parties. I should also clarify that when the report mentions that we have lost more than half of the original wetlands to development this refers tot he lower 48 states and does not include Alaskan wetlands which have experienced a loss of less than 0.05% Alaskan wetlands are quite differed from those in the lower states, are in no danger, and I hope that that fact is remembered when Congress addresses this problem.

As you know Mr. Chairman, there are many questions that must be answered before we are able to formulate a responsible policy in this area. One of the more important questions is how to define "no overall net loss". Will it be defined very broadly, on an acre by acre basis, within the confines of a permit or within a larger geographical area? These and many other questions need to be answered and that is why I am glad that you plan to have a number of hearings on this issue before we even begin considering any legislation. I therefore appreciate the strategy that you have decided upon and look forward to working with you to find a workable solution to this serious problem. Thank you Mr. Chairman.

Mr. NOWAK. We will now turn to Mr. Costello from Illinois.

Mr. COSTELLO. Likewise, Mr. Chairman, I ask unanimous consent that my statement be entered into the record.

Mr. NOWAK. Without objection, it is so ordered, and I thank the members for the forbearance of making long opening statements.

[Mr. Costello's prepared statement follows:]

STATEMENT BY REPRESENTATIVE JERRY COSTELLO, "THE STATUS OF OUR NATION'S WETLANDS"

Our nation's wetlands are a natural treasure that provide a home to thousands of wildlife species which play a crucial role in our environmental ecosystem. They are an important part of America's history and heritage, a reservoir of life and nature in every state across the country.

Tragically, our nation's wetlands face great danger. Over half of the original U.S. wetlands have been destroyed since our land was first inhabited, and estimates show that our wetlands are greatly shrinking every year.

Many parts of Southwestern Illinois contain these precious resources. Horseshoe Lake, Carlyle Lake, Highland Silver Lake and Governor Bond Lake, along with tributaries from the Mississippi and Illinois rivers, are home to precious species cherished by outdoorsmen and environmentalists. These areas must be protected from use as landfills, waste dumps or overdeveloped areas that infringe on the delicate wildlife that exists in these wetlands.

Today, this committee will hear the status of our nation's wetlands and the outlook for their survival. As a cosponsor of H.R. 1746, a bill to protect and promote our nation's wetlands, I am hopeful that we can halt the increasing decline in wetland areas. This will show the next generation and generations to come to appreciate the vital contribution they make to our environment.

Mr. STANGELAND. Mr. Chairman, I notice on my desk there is a statement by Congressman Hayes of Louisiana Seventh on the Nation's wetlands, and I am wondering if that should not be entered into the record on his behalf.

Mr. Nowak. All statements will be entered in the record that will be submitted today, and we will have ample opportunity to have all of those statements accepted.

[Mr. Hayes' prepared statement follows:]

STATEMENT OF

CONGRESSMAN JAMES A. HAYES

LOUISIANA 7TH

ON

OUR NATION'S WETLANDS

COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION

SUBCOMMITTEE ON WATER RESOURCES

Mr. Chairman, as a Member of Congress who is faced with losing his congressional seat, not by reapportionment, but by the erosion of his district's land, I sincerely appreciate your commitment to study the problems surrounding our wetlands during this current session. As your hearings will reveal, Louisiana is faced with the unfortunate status of leading the nation in both unemployment and rate of land loss. Neither are titles we want to retain.

However, I am confident that we will be successful in overcoming each of these problems, particularly with the help of the members and experts gathered here.

The mission of this hearing is to educate each party involved as to the possibilities that exist for remedying excessive erosion. You will hear that Louisiana contains over 40% of this nation's wetlands, yet will bear over 80% of the total wetland loss incurred each year.

Before moving on to the witnesses we have here today, I would like to explain why this committee, and Congress, should be spending its time on this issue. The coastal wetlands of the Mississippi Delta and chenier plain offer a per acre productivity that rivals the highest values anywhere in the world. Each year this region's shellfish and commercial fishing industries pump over $680 million dollars into our nation's economy, supplying seafood for grocers and restaurants in every state in the nation. Our fur industries are the largest in the U.S., adding another $18 million each year that comes from the region's renewable resources. These wetlands also support over two-thirds of the waterfowl that use the Mississippi flyway each year, a total of over 4 million birds. Combining both sport fishing and hunting activities, each year this region supports the recreation of over 1 million people, spending $538 million in retail sales that in turn creates 17,000 jobs and provides our economically depressed state with over $8 million in tax revenues.

What these figures reveal is that, while this region apparently has little value to the untrained eye, a realistic appraisal reflects an annual billion dollar, renewable resource. Keep in mind that these numbers do not even touch upon the oil and gas production that occurs along the coast that is estimated to exceed $27 billion a year.

What concerns me most, however, is the intangibles we lose should we continue to ignore this problem. The culture and quality of life that this region is so famous for is also in jeopardy of vanishing along with the coast. The flavor of Cajun Louisiana is preserved in the past times and jobs that are found in the coastal zone and I know we each understand that it is impossible to put a value on a saving one's heritage. I hope that each of you will take the opportunity to come to Louisiana to see this region for yourself and maybe you will better understand the importance of our actions here today.

Mr. **Nowak**. Let me now turn to our witness because he has another appointment at 12 noon, and we would like to have the ability to ask as many questions as we could orally, and of course, we plan to keep the record open as we go through the testimony today for written questions which will be submitted to complete our record.

This morning, as others have done, we want to welcome EPA Administrator Bill Reilly. This is Mr. Reilly's first appearance before the Public Works and Transportation Committee.

Mr. Reilly comes to the Environmental Protection Agency from the Conservation Foundation, having served as its president since 1973. During that time, the Foundation provided the Congress and the public with valuable information designed to improve the quality of our environment and the wise use and preservation of our national resources.

Mr. Reilly is known for his successes in obtaining compromise among divergent interest groups. Mr. Reilly was president of the Conservation Foundation at the time the National Wetlands Policy Forum developed its report, and his ability to aid in consensus building is demonstrated by the wide variety of interest groups represented in that Forum.

We look forward to working with Mr. Reilly both on this wetlands issue and certainly the many other environmental issues over which this committee has jurisdiction.

Mr. Reilly, welcome to the committee. I am sure this will be the first of many appearances.

TESTIMONY OF WILLIAM K. REILLY, ADMINISTRATOR, U.S. ENVIRONMENTAL PROTECTION AGENCY, ACCOMPANIED BY DAVID G. DAVIS, DIRECTOR, OFFICE OF WETLANDS PROTECTION

Mr. **Reilly**. Mr. Chairman, I thank you for that generous introduction, and I thank you and compliment you and the committee for this hearing on wetlands.

Mr. **Nowak**. Excuse me, Mr. Reilly. We have one more member that had another commitment, Mr. Hayes from Louisiana.

Mr. **Hayes**. I just wanted to urge the chairman, if he could, this matter is so important to so many States that are represented here today, if Mr. Reilly would indulge us, since his appointment is at 12, if the Chair could urge him to give us the opportunity to review his statement, but if he could proceed more rapidly to questions, I know that those interests that are so dramatically affected in key States would very much appreciate that in view of the time constraints.

Mr. **Nowak**. We could request of Mr. Reilly—his statement is already, I think, in the hands of every member, and many have had the opportunity to review that statement, and if Mr. Reilly desires, he could summarize his written remarks in any manner he so desires, and then we could proceed with the questions.

Mr. **Reilly**. Thank you, Mr. Chairman.

I will do that. I will be brief, then, and abbreviate what I had planned to say.

I appreciate very much the chance to appear before this committee and particularly to do so on a subject as important to the country and to the environment as wetlands conservation.

I have taken a very strong interest in wetlands throughout my career as a conservationist, and I think you very well stated the functions of wetlands, the very important role they play in serving as nurseries for such a wide variety of plant and fish life and in fostering flood control, protecting communities in so many ways from natural hazards, and all the other functions that you described.

The responsibility for managing and protecting wetlands is vested in any number of agencies at the Federal, State, and local levels of government. I would like to start by pointing out that, in the area of the environment, it seems to me that we have so many different priorities at this time, many of them urgently crying out for more attention and more resources.

There is what I have termed as the unfinished business, the old agenda items that involve making good on commitments the United States has made over the years to the protection of the environment but which we as a Nation have not really achieved at this time.

Very high on that list, I think, is wetlands conservation. In the late 1960s, when environmental awareness began to grow in the United States, we appreciated the functions of wetlands. We understood the threats to them and the rate at which we were losing them. We saw States around the country and the Federal Government take some major initiatives to try to protect them.

Nevertheless, 20 years later, the best information available to the National Policy Forum on Wetlands Conservation, the most recent data, suggested that something in the range of 300,000 to 500,000 acres per year of wetlands continue to be lost. That, it seems to me, is scandalous, is shocking, is finally unacceptable. It is that which ought to lend urgency to our effort and shape our response to this problem.

The President has made a very strong commitment to wetlands conservation. Throughout his campaign, he spoke of the need to establish a national policy that would make no net loss of wetlands a principal goal of the administration. He has now, since his election, repeatedly reemphasized this goal and, in his State-of-the-Union budget address in February, spoke directly and committed the country, committed the administration, to moving quickly to develop this proposal.

The Domestic Policy Council will soon begin to consider options and approaches to try to achieve that goal. We at the Environmental Protection Agency are already working with other agencies of the government, the Corps of Engineers, the Fish and Wildlife Service, on many aspects of wetlands conservation and are beginning to consider some of the practical ways that we can give expression to this very important national objective.

I think that I will not say much more except to comment that the initiative that has focused so much of our attention on wetlands, the National Policy Forum on Wetlands Conservation, is one that I think deserves a great deal of credit, not because I played a role in it, because the key role really was played by its chairman, the Governor of New Jersey, Governor Kean. Governor Kean's Chief of Policy, Brenda Davis, also was very important in that effort. She is here today and you will hear from her later.

We at the Foundation tried to both provide content and substantive research and analysis to this effort and also to encourage the process itself, because, obviously, there are a great many interests in the society with a stake in wetlands management.

A good many of them were represented on that Forum, and I think that the inclusion and, finally, the unanimous support for the goal from governors, State officials, local officials, home builders, energy company executives, forestry company executives, leaders of major environmental organizations—one of whom I am happy to see, Peter Berle, president of the National Audubon Society, is here today—I think is a very strong and compelling argument for moving ahead in this area of national policy and moving to establish more consistent, predictable procedures to govern the use of wetlands and to try to arrest the very alarming losses of them.

Finally, just before I took office, EPA Administrator Lee Thomas issued a statement of policy on behalf of the Environmental Protection Agency with seven major objectives. It is the Agency's response to the National Wetlands Policy Forum. It is included in my statement, and I will not summarize it now.

We have given, are giving, and will continue to give the highest priority to the better management of this fundamentally important resource of wetlands.

Thank you, Mr. Chairman. I will be happy to answer any questions you and other members of the committee may have.

Mr. NOWAK. Thank you very much.

As you can see by the attendance here and by other Members who have contacted me on this issue, there is a high degree of interest in trying to move forward with an approved system to protect our wetlands.

The educational process which goes on in this country does not really bring great attention to issues until, perhaps, there is a crisis, and now it looks like there is a consensus looking at this problem and saying we are at that point, and unless we react very quickly here, we will place the wetlands into an insoluble position, and we have got to take some action now.

When we look at the recommendations of the Forum, it has a lot to do with education, and I guess that is the first step, as you mentioned in your testimony and in your brief summary, about the education of business and consumers throughout this country to elevate what this means. It is very difficult to explain in terms of dollars and cents to anybody until the problem is so bad that it is irreversible.

I think everybody here wants to work with you and bring in all of those recommendations, many of which, as we look at it, can be done administratively and very, very quickly. If there is a consensus to move forward with those, we would appreciate as a committee to be made aware of every initiative in this area particularly among those recommendations made that you feel you can implement at EPA and all the other agencies, so we can formulate something down the line, hopefully, within this next 5 or 6 months. out the legislative portions which will aid you in further developing this no-net-loss policy.

Looking at the clock and the members present, if every member would keep his questions within a 3-minute time frame, everyone would have the opportunity for at least one round and perhaps a couple of other questions, and I would ask that all the members do that. If we so desire, then we could ask, after we hear the other witnesses, for a repeat appearance by Mr. Reilly when we can jointly work that out for any further questions that we may develop.

At this point, let me turn to Arlan Stangeland for any questions he may have.

Mr. STANGELAND. Thank you very much, Mr. Chairman.

I have a list of 16 questions of which I am not going to ask now because they are very lengthy, and I will not take the time of the committee, but I will be submitting them to you, Mr. Reilly. If there is anyone in the audience who might want to look those questions over to see where my line of questioning flows, they only have to contact my staff, Gabe Rosa here, if they are interested in that set of questions.

Mr. NOWAK. Without objection, your questions may be submitted in writing and the responses will appear at this point in the record.

[Mr. Stangeland's questions to Mr. Reilly and responses follow:]

United States
Environmental Protection
Agency

External Affairs (A-100AE)
Washington DC 20460

EPA

Legislative Analysis

MAY 12 1989

Honorable Arlan Stangeland
U.S. House of Representatives
Washington, D.C. 20515

Dear Mr. Stangeland:

Enclosed are the responses to questions regarding the Environmental Protection Agency's wetlands program which you addressed to the Administrator. These questions arose from the April 12th hearing held before the Subcommittee on Water Resources, Committee on Public Works and Transportation.

I hope this information will be helpful to you and the members of the Committee. If there is any further information we may furnish you, please do not hesitate to contact me.

Sincerely yours,

Barbara Bassuener
for A. Henry Schilling
Director, Office of
Legislative Analysis

QUESTIONS SUBMITTED FOR THE RECORD BY CONGRESSMAN STANGELAND

QUESTION 1: Mr. Reilly, in your written statement, you mention that the administration is currently reviewing the existing Executive Order on wetlands, E.O. 11990, to determine whether it needs to be revised. In fact, I believe you indicate that you hope to join with other agencies in revising it. Could you describe the existing Executive Order and indicate what changes you would like to see in it?

ANSWER: The existing Executive Order provides a good baseline calling federal agencies to factor wetlands into their decisionmaking processes. The Domestic Policy Council will be establishing an interagency task force to coordinate and assess implementation of a "no-net-loss" goal, and to revise and strengthen the existing Executive Order. EPA will be an active participant in the task force. It is premature to indicate what specific changes EPA will recommend.

The general categories of revisions EPA might include would be to incorporate the goal of the Wetlands Forum and the relevant recommendations. The Forum's recommendations include actions to demonstrate federal leadership in wetlands protection and management; actions to improve federal stewardship of wetlands on public lands; actions to strengthen and improve federal programs within existing laws to achieve the goal; and actions to improve the scientific basis of wetlands decisions.

QUESTION 2: The language in Section 404 of the Clean Water Act does not mention the word "wetlands." The term is also missing from the definition of "navigable waters" located in Section 502 of the Act. Nonetheless, the Corps and EPA have developed a rather extensive regulatory program under the Section 404 program to address wetlands losses. Could you describe for the Committee the legal basis for regulating discharges in wetlands, particularly isolated wetlands, and what limits you see, constitutionally and practically, to the Federal government's jurisdiction under Section 404?

ANSWER: The goal of the Clean Water Act is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Congress, in keeping with this objective, chose in 1972 to define the waters covered by the Act broadly - all navigable waters which are defined in Section 502 as "waters of the United States." The conference report to the 1972 amendments confirms the breadth of this jurisdiction by stating that, "the conferees fully intend that the term 'navigable waters' be given the broadest possible constitutional interpretation unencumbered by agency determinations which have been made or may be made for administrative purposes." When Congress again amended the Act in 1977, it was aware of the scope of the Corps' asserted jurisdiction over wetlands as defined in their 1975 interim final regulations and rejected attempts to narrow the scope of that jurisdiction, in large part because of concern that to do so would unduly hamper protection of wetlands. Moreover, in amending Section 404 to, among other things, provide for state assumption, Congress made specific reference to wetlands in Section 404(g)(1).

In construing the scope of Congress' Commerce Clause authority, the courts have repeatedly held that such authority is not limited to instances in which the individual occurrence has a significant effect on commerce. Instead, Congress' authority to regulate is much broader and includes acts which may in isolation be deemed local, but which either indirectly or in the aggregate with other similar acts have a national effect. Applying this analysis to isolated wetlands, Section 404 covers regulated discharges into isolated wetlands the use, degradation, or destruction of which could affect interstate commerce. This would include, but is not limited to, isolated wetlands which could or would be used by migratory waterfowl, irrespective of whether they are actually used by such waterfowl.

EPA and the Corps of Engineers have identified in the Preambles to their Section 404 regulations (40 C.F.R. Part 232 and 33 C.F.R. Part 328) examples of waters generally not considered as waters of the United States. These examples include nontidal drainage and irrigation ditches excavated on dry land, artificially irrigated areas which would revert to upland if the irrigation ceased, certain artificial lakes or ponds created on dry land and others.

QUESTION 3: Section 404(g) provides a mechanism for transfer of a portion of the Section 404 regulatory program to the states. It is my understanding that, thus far, only one state has been approved by EPA to administer the program. Could you tell the Committee why states have been so reluctant to assume administration of the program? What changes would you recommend to encourage greater state participation?

The principal reasons that States give for not requesting assumption of Section 404 in non-navigable waters are that the Federal government does not provide funding to administer the program once assumed and that the States cannot administer the program in all waters (i.e. navigable waters and adjacent wetlands). Historically, there were also concerns raised about the complexity of the regulations governing assumption and excessive oversight by EPA. However, EPA revised the regulations in June 1988 removing many of the impediments to assumption that existed in the former rule.

Regarding the second part of the question, the two principal reasons for States not assuming the program suggest potential solutions. The Administration has not taken a position on these issues, but intends to consider them through the Domestic Policy Council Task Force on Wetlands when it is established.

QUESTION 4: Please elaborate on plans by the Corps and EPA to implement the Memorandum of Agreement (MOA) on geographic jurisdiction and 404(f) exemption, particularly the use of EPA's advance designations of "special cases". How many "special cases" have been identified by EPA thus far?

ANSWER: EPA expects that the new Memorandum of Agreement (MOA) will improve both agencies' ability to effectively allocate resources associated with determining Section 404 program geographic jurisdiction and the applicability of Section 404(f) exemptions in the field. Under this MOA, the Corps will continue to perform the majority of the jurisdictional determinations and the determinations of the applicability of exemptions under Section 404(f) in administering the Section 404 program. In making its determinations, the Corps is implementing the newly developed interagency Federal Manual for Identifying and Delineating Jurisdictional Wetlands, as well as other relevant guidance, interpretations, and regulations issued by EPA in coordination with the Corps.

Under the MOA, EPA will have the ability to designate, in advance of a determination by the Corps, special cases or special 404(f) matters for areas where EPA feels it necessary to make the final determination of the scope of waters of the United States or the applicability of the Section 404(f) exemptions.

Although no special cases or special 404(f) matters have been designated since the effective date of the new MOA (March 20), EPA is considering designating areas of bottomland hardwood wetlands in the southeast and pocosins in North Carolina as special cases under the MOA, as well as agricultural and silvicultural activities as special 404(f) matters in areas of the southeast and northeast. We anticipate that these designations will be more limited both in geographic scope and length of time in effect than special cases under the 1980 MOA. We are optimistic that existing guidance like the delineation manual and development of future guidance that focuses on specific problems will effectively address our concerns.

QUESTION 5: Mr. Reilly, your statement indicates that EPA has a new initiative on information and guidance for local governments to use in developing wetlands protection programs. Do you envision these as being regulatory in nature, similar to the Section 404 program?

ANSWER: We believe that local levels of government are in a very good position to protect wetlands because they are close to the activities and they have appropriate tools for land use planning and control. Furthermore, we believe that many jurisdictions are interested in protecting wetlands, but simply do not have the information on appropriate techniques. Therefore, our efforts on local program development have focused on developing guidance that the States can use to help local jurisdictions develop wetlands protection programs and on providing information directly to some local jurisdictions on how to develop an effective program. Regulatory measures including use of zoning, developing a local regulatory program and interacting with existing State and Federal regulatory programs are included in our guidance. Non regulatory measures, such as land acquisition, easements, and transfer of development rights are also included. We believe that an effective local program would consist of a mix of regulatory and non regulatory measures; however, it will be up to local jurisdictions to decide what mix of "tools" is best for them.

Our interest in developing local programs does not mean we support local regulatory programs in place of State or Federal permitting. Instead, we envision local programs that function cooperatively with State and Federal agencies and that supplement them in important ways.

QUESTION 6: You also describe some funding initiatives to encourage greater state involvement in wetlands protection. How much funding are you seeking and how will the money be used? Are you contemplating using additional grant assistance as a way to encourage states to assume administration of the Section 404 program?

ANSWER: One of the principal reasons that states give for not being interested in assuming the 404 program is a lack of Federal funding. The present grants to states under Section 106 are being fully utilized with States administering additional programs with the same funding. This does not allow moving funding to wetlands program administration. Therefore, EPA has requested additional funding to be directed toward wetlands programs in its FY 1990 budget request. We believe that this will increase the interest of some states in developing wetlands programs. EPA's FY 1990 budget request currently includes $1.5 million to support development and operation of state 404 programs. This funding could be used to develop state capability to administer an approvable state wetlands protection program. It could be used to develop the documentation needed to request program assumption, to identify wetlands resources and to develop a program to protect these resources. We are particularly interested in States that are proposing to assume the regulatory program within the broader context of a comprehensive wetlands protection program, such as State Wetland Conservation Plans identified in the National Wetlands Policy Forum recommendations.

QUESTION 7: Your statement indicates that EPA is working with the Department of Agriculture on initiatives to be included as part of a 1990 Farm Bill. What initiatives are you considering? When will you have some specific proposals for the Congress?

ANSWER: EPA is currently working with USDA to identify opportunities that may be presented in deliberations leading to the 1990 Farm Bill. We continue to support the conservation provisions of the 1985 Farm Bill: Sodbuster, Conservation Reserve, Conservation Compliance, and Swampbuster. EPA is also interested in more direct opportunity for preservation and restoration of wetlands in agricultural areas. The National Wetlands Policy Forum recommended a National Agriculture Wetlands Reserve, which would preserve five million acres of current wetlands and restore 2.5 million acres of former wetlands. ASCS would compensate owners of cropland, rangeland and pastureland and would pay half the cost of improvement to these lands to enhance their wetland functions. EPA proposals or concerns will be raised while working cooperatively as a member of USDA's 1990 Farm Bill Conservation Initiatives Workgroup.

QUESTION 8: Your statement indicates that EPA is working on water quality standards applicable to wetlands. Could you describe for us what you see as the deficiencies in current water quality standards when they are applied to wetlands and what would be added under any new standards?

ANSWER: Many State water quality standards are deficient regarding wetlands. Approximately half of the States do not mention wetlands, or similar terminology, in their water quality standards. Consequently, major elements of standards, such as designated uses, criteria and antidegradation, have not been developed for specific application to wetlands. Explicit standards for wetlands are important because they provide a basis for regulatory and nonregulatory programs to protect wetland functions and values. For example, standards can be used by the States as a basis for denying or modifying Section 404 permits using the State Section 401 certification authority or for judging the potential water quality effects on wetlands of proposed wastewater discharges or management practices for nonpoint sources.

Our Office of Wetlands Protection, in cooperation with the Office of Water Regulations and Standards, is developing program guidance and supporting State pilot projects to assist States in the development of standards for wetlands. These efforts will focus on the use of available information and research to develop use classifications based on the functions and values of wetlands, and the use of State antidegradation policies that include the identification of wetlands for protection under the outstanding resource waters provision.

The EPA Office of Research and Development has developed a research plan that defines the steps needed to develop water quality criteria for wetlands. These criteria include chemical measures and measures of biological integrity.

QUESTION 9: The Section 404(c) process has been embraced by some as a way to ensure protection of valuable habitat and deplored by others as a mechanism to second guess a sister agency's decisions. Could you describe what steps you intend to take to ensure that the veto authority does not unnecessarily delay the decision-making process.

ANSWER: I am not aware of any instances in which EPA's exercising of its Section 404(c) authority resulted in unnecessary delays in decision-making. Section 404(c) actions are taken by EPA only when it is clear that the project will have significant adverse impacts on valuable environmental resources and as such, these actions are part of the decision-making process. EPA has consistently provided timely decisions with respect to the Section 404(c) process given the sometimes exceptional technical and administrative burdens involved.

With regard to the second guessing issue, EPA's Section 404(c) authority is exercised with respect to unacceptable adverse environmental impacts. The Section 404(c) regulations clearly articulate EPA's independent authority to utilize relevant portions of the Section 404(b)(1) Guidelines in arriving at conclusions with respect to unacceptable adverse environmental impacts. EPA must, therefore, make its own determination with respect to Guidelines compliance and factor these conclusions into its evaluation of the unacceptability of anticipated environmental impacts. EPA has clearly articulated its concerns with respect to Guidelines compliance (or noncompliance) during the Corps NEPA and regulatory processes which preceded previous 404(c) actions.

QUESTION 10: Could you describe the state of EPA's research on the development and use of artificial wetlands for wastewater treatment, particularly for small dischargers.

ANSWER: EPA's Office of Research and Development is involved in engineered (artificial) wetland systems in two areas. The first is the development of technical guidance on the engineering of these systems; guidance entitled "Design Manual, Constructed Wetlands and Aquatic Plant Systems for Municipal Wastewater Treatment", was issued in September 1988. In addition, ORD is supporting pilot projects in this area, and is supporting the development of these system for small communities through a cooperative effort with the Tennessee Valley Authority. The second area involves research into the physical, chemical and biological criteria that define wetland structure and function.
These criteria may be used to determine whether an artificially created wetland achieves the same functions as natural wetland systems. We have developed a research plan to develop these criteria.

QUESTION 11: I understand that EPA and the Corps are both working on a model project along the Des Plaines River in Illinois which would use restored and artificial wetlands for recreation and flood control benefits. How far along have you gotten on the project and what are the results thus far?

ANSWER: EPA has supported the efforts of Wetlands Research, Inc. to restore approximately 450 acres of wetlands along a 2.8 mile stretch of the Des Plaines River, not only for recreation and flood control benefits, but also for restoration of habitat and water quality. We have supported this project because we believe that restoration of wetlands is an important component of a comprehensive national wetlands policy. We also believe that the Des Plaines River project will produce important information that will help to reduce the high level of scientific uncertainty currently associated with attempts to restore and create wetlands.

An important point regarding the project is that EPA is only one of many parties that have contributed. Major supporters include the U.S. Fish and Wildlife Service, the State of Illinois, Lake County, and various industry contributors. While Congress has authorized funding through the Corps of Engineers in the Water Resources Act, no funds have been appropriated to date.

Significant progress has been made on the project. Four experimental sites have been established and pumps, the supply pipeline, instrumentation and monitoring equipment are in place. Results on the effectiveness of the reestablished areas in performing wetland functions are not yet available, although some research will begin this year. Four experimental sites remain to be established.

QUESTION 12: Mr. Reilly, in your statement you point out the fact that the Section 404 program does not regulate activities such as draining and clearing that do not involve the discharge of dredged or fill material. Do you recommend expansion of the existing regulatory program to encompass such activities?

ANSWER: The Section 404 program, because it does not regulate projects involving drainage, as well as excavation, clearing, and flooding of wetlands, is as a result, not a comprehensive wetlands protection program. It is clear that expansion of the scope of activities that are regulated is required if we are to increase the effectiveness of our efforts to protect wetlands and achieve a goal of no net loss of the nation's remaining wetland base. As pointed out by studies performed by the Congressional Office of Technology Assessment and the U.S. Fish and Wildlife Service's National Wetlands Inventory, the great majority of freshwater wetland losses in recent years can be attributed to drainage associated with agricultural activities. Drainage of wetlands is the primary source of wetlands conversion in some parts of the country, such as the Lower Mississippi River Valley and the southeast in general, as well as the prairie pothole region in the midwest. The final Report of the National Wetlands Policy Forum has recognized that "the current regulatory focus can miss other major causes of alteration, such as excavation, drainage, the destruction of vegetation, and the driving of pilings." Based on this, the Forum has recommended that Federal and state regulatory programs explicitly address these activities that are significantly contributing to the continuing loss and alteration of the nation's wetlands.

QUESTION 13: Wetlands owners frequently complain that if the government prohibits the draining of their land, the government has effectively "taken" the land for public benefit. They argue that this "taking" denies them of a valuable property interest which requires compensation under the Fifth Amendment of the Federal Constitution. Could you comment on this argument and indicate what limits, if any, you see in the government's ability to restrain the use of a land owner's property rights.

ANSWER: At the outset, it is important to recognize that Section 404 regulates "discharges" of dredged or fill material into waters of the United States and, thus, that efforts to "drain" waters of the United States are not necessarily subject to Section 404. The takings claim is based on the Fifth Amendment's prohibition against the taking of private property without just compensation. Such a claim may arise where the federal government physically invades private property or where federal regulations affect the use of that property. In analyzing regulatory takings claims, the Supreme Court's approach has not been based on any set formula, but rather on ad hoc factual inquiries. These inquiries are guided by two principles: whether the regulation substantially advances legitimate state interests; and whether the landowner was denied all economically viable use of their land. The Court has also named as an important factor the reasonable expectation of a property right in the land at issue. Moreover, for the past 100 years, the courts have recognized that the valid exercise of police power to protect public health and safety is not a taking. The government may adopt a wide variety of regulations that affect the uses to which an owner may put his property without compensating the owner. The nature of the government's authority to respond evolves to meet the changing threats to public health and safety.

QUESTION 14: Mr. Reilly, please elaborate on the reference to State water quality certifications on page 9 of your testimony. Is EPA going to encourage States to use their "veto authority" under Section 401 of the Clean Water Act more frequently? If so, why?

ANSWER: The state authority for water quality certification under Section 401 provides a very good opportunity for states to play a more active role in decisions affecting their wetlands and other water resources. Section 401 certification serves as a mechanism for states to ensure that federal permits and licenses which may involve a discharge are consistent with a state's programs related to wetlands, water quality, and aquatic resource preservation and enhancement. For many states, 401 certification can serve as a tool for states to "get their feet wet" prior to considering assumption of the Section 404 program. States can work within their existing program to improve protection of wetland quality without major legislative changes on the state level.

EPA has developed a draft handbook for states to aid in the application of 401 certification to wetlands. The "veto authority" of the state is only one aspect of the program. Wetlands, as waters of the state, should receive the same attention and protection as other waters including: inventorying the resource, designating uses, and developing appropriate water quality criteria. States can place conditions on permits or licenses to ensure that their water resource concerns are protected. In addition, states can use the Outstanding Resource Waters designation under state antidegradation policies to provide extra protection to their most valuable wetlands and other waters.

QUESTION 15: What are EPA's specific plans with regard to the nationwide permit program, the definition of "fill material," the analysis of cumulative impacts, and the determination of adequate mitigation?

ANSWER: It is our understanding that the Corps of Engineers will be proposing revisions to the current nationwide permit program in the near future, at which time EPA will review the changes and provide comments to the Corps.

With regard to the definition of "fill material," we are continuing discussions with the Corps on this issue. In the immediate future, we are planning to deal specifically with the regulation of mining wastes under the 1986 Memorandum of Agreement regarding the regulation of solid wastes. We are optimistic about reaching agreement on a common definition of "fill material."

EPA is continuing to develop and test methods for assessing the cumulative effects of wetland loss and degradation. We have completed several pilot studies, and expect that a final methodology will be completed by 1991.

We believe that the problems of determining whether adequate mitigation is proposed for a project can be effectively addressed through both the development of a comprehensive federal mitigation policy that reflects the President's goal to achieve no overall net loss of the nation's remaining wetlands base, and the improvement of our scientific understanding of mitigation techniques. EPA is currently working with the Department of the Army to develop a joint Mitigation Policy relative to the Clean Water Act Section 404 regulatory program. We are also producing a Mitigation Handbook that will provide guidelines to; (1) evaluate the probability that a proposed mitigation project will succeed, (2) set goals and formulate permit conditions to ensure that mitigation projects are properly designed and implemented, and (3) determine if a mitigation project meets the goals specified in the permit conditions and mitigation proposals, We expect the Handbook to be completed in February 1990.

QUESTION 16: What additional guidance will you provide on the 404(f) exemptions referred to on page 13 of your testimony?

ANSWER: Under the recent Memorandum of Agreement (MOA) on geographic jurisdiction and the applicability of the Section 404(f) exemptions, EPA, in coordination with the Corps, will develop guidance on Section 404(f) exemptions in response to specific problems and issues identified by EPA Regions and Corps Districts. In recent years, we have developed Section 404(f) guidance with the Corps regarding drainage ditch maintenance, and we are currently working with our Region IV office to develop guidance regarding the silvicultural exemptions in response to issues that have developed relevant to forestry practices in the southeast. The intent of this guidance is to improve our implementation of the Section 404 regulatory program and to provide greater certainty to the public regarding the application of exemptions under section 404(f).

Mr. **Stangeland**. I just want to emphasize that, in my area, I do not have the problem that Mr. Pallone and others had with developers as much as I do the conflict between agriculture and environments, Fish and Wildlife, the Minnesota D&R, that sort of thing.

I know of very few farmers who do not consider themselves environmentalists. I just think that with education, participation, adherence or at least a listening ear, and negotiations, that you are going to find a willingness to work. Farmers a lot of times are driven by the economics that they are facing out in that land, and that economics question sometimes overrides their better judgment on what is environmentally sound and the future of wildlife, wild plants, waterfowl, fish, and so on.

That is my message or my encouragement, that we take that into consideration and come at it from a point of understanding rather than confrontation, and I think we can do that. I am confident that it can be done.

Mr. **Reilly**. I agree with that, Mr. Stangeland.

We had on the Policy Forum more than one representative of the farm community. I personally was interested to see how relatively few wetland alterations occur in the country with involvement or control or regulatory authority of the Federal agencies. By and large, this is a matter that occurs at the local level and may be something that happens without any government responsibility or control at all.

So the role of education, the involvement of people, raising of consciousness about wetlands functions and their importance and their role and the involvement of private groups, of farm groups, of conservation groups, and all of those is fundamentally important. I completely agree with that.

Mr. **Stangeland**. One of our big problems—and I will just take another minute—we have a problem up in my area of perpetual easements, where the government took a perpetual easement on a piece of property 10, 15, 20 years ago in a totally different environment of agriculture, and once that perpetual easement is on, it is perpetual; it is forever.

This has nothing to do with EPA. It has more to do with Fish and Wildlife. But with some flexibility in that perpetual easement program, some willingness on the part of the Federal Government to make some compensation with the changing dynamics of the economics of agriculture, those farmers would be happy to leave that land in its natural state.

But there has been a battle, and because of that battle and all these others that we face now, everyone has got his heels dug in, and that is why I say the educational process and the participation process, I think—I am optimistic, and I am willing to work with you on it.

Mr. **Reilly**. Great.

Mr. **Nowak**. I thank the gentleman.

We turn to the gentleman from Oregon, Mr. DeFazio.

Mr. **DeFazio**. Thank you, Mr. Chairman.

Mr. Reilly, I just have some fairly specific questions here.

Under your authority, how far back will EPA go in enforcing wetlands regulations? This is not quite a hypothetical. We have a situation where there was a development that occurred.

I represent Southwest Oregon. The whole valley was, 150 years ago, considered a wetland, prairie grassland area. So the entire valley, before Federal development, before the dams, was a wetlands. Now what we are left with is farmland that generally where water will stand in the winter but not year-round.

We have had some development, quite a bit in the last 15 years, and there was some development that occurred with the consent of both EPA and the Corps of Engineers in the late seventies. Some fill took place, and it was not at that time considered a wetlands. Since then, because of aerial surveys, it has been determined that, even though EPA and the Corps signed off on this at the time, they are now saying that was probably a wetland at the time, and therefore it should not have taken place.

The firm wishes to expand now. They are fully willing to mitigate for what is now considered a wetlands fill for their expansion in the same ecosystem very responsibly. But now they are being told that they cannot go ahead with the expansion until they mitigate for their past construction, which was done some 12 or 10 years ago, with the authority of EPA and the Corps of Engineers.

I am wondering, if this is a precedent, then apparently we are going to go back and review every single development that has occurred since 1975, apparently, is what we are hearing from the Regional Office, and they are saying at this time we are not going to ask them to remove the plant, which has been there for 10 years, but we might.

My question is, I think this firm is acting responsibly. They went to the proper agencies, they got the permits, they did the activities 10 or 11 years. Now they want to expand. They are fully willing to mitigate, and they are being told, well, unless you make up for your past permitted activity, you cannot have the expansion permit even if you do the mitigation.

I know that is very specific, but I am just curious. As a policy, are we about to go back and review the last 15 years of permitted development?

Mr. REILLY. No, sir. No, we are not at all.

I was thinking as you were talking about what the implications would be for some of the agencies in the city, like the State Department and others, that are built on fill material or in former wetlands were we to go back and reconsider all of that.

We have no intention of proceeding retrospectively on issues of that sort. I am not personally familiar with that case. I will go back and learn about it and get back to you on it.

Mr. DEFAZIO. Well, I am pleased to——

Mr. REILLY. As you describe it, it does not sound like a reasonable position.

Mr. DEFAZIO. Right. There may be details I am not aware of, but I have spoken with counsel for the city and the others.

In Oregon we have very strict laws regarding development, comprehensive land use planning. We have our own goals for wetlands protection. As a county commissioner, I have avidly protected wetland areas. But this is just a case where I think we are all kind of going to the extreme. They want to do an activity now which will impact. They say, "We will fully mitigate." That is responsible.

But to go back 10 years seems to me, particularly when everyone signed off 10 years ago, seems a bit radical.

Mr. **Reilly**. Well, I appreciate that.

Mr. **DeFazio**. One other thing I would request that you look at in the protection would be sort of a relative value study. On a scale, there are wetlands that are absolutely critical habitat to wetlands that have some valuable but are marginal in comparison, particularly, as I am saying, these farmland sort of areas that were previously a prairie wetland.

I am curious, in developing both mitigation strategies and strategies for enforcement, are you going to put things sort of on a relative scale and go most avidly after those that are most critical?

Mr. **Reilly**. We are trying to do that. It is even more important that we do it now, that as we move forward to implement a no-net-loss policy, obviously, the questions will arise about comparability and function and value of a wetland, so that there will be a need to understand much more about a particular wetland, where it fits into the ecosystem, which wildlife or plant life it fosters, things of that sort.

We are doing it. We are giving a greater priority to it. I think we are going to have to work with a number of other Federal agencies to get standard definitions and agreements, which is also an area where we have made some progress in the last year or so.

Mr. **DeFazio**. I notice in your testimony that you are emphasizing working with State and local jurisdictions and developing plans; you are working with an Indian tribe on a development.

Is there anything available beyond information assistance? Is there potential for any sort of financial assistance in developing comprehensive plans? What I am looking at here is a multi-jurisdictional issue where we have a county and two cities involved in an area where, if we could coordinate those jurisdictions to develop sort of a comprehensive plan and prioritize the critical habitat down to the least critical in development, I am wondering, is there anything available at this point?

Mr. **Reilly**. That is exactly the kind of effort that we would like to encourage, and I believe very strongly that some of the best programs for wetlands management, as in any number of other areas of the environment, have come up from States and localities.

Unfortunately, the budget that we are operating on does not give us much leeway to provide financial help.

Mr. **DeFazio**. Right.

Mr. **Reilly**. We can talk a lot and provide some technical guidance and information, and we are doing that. I think our relationships with the States and localities on these issues are better and better.

One thing we have got to do, clearly, they have got to do, is work to anticipate wetlands demands and uses and functions and do a lot more advance identification of wetlands. That is a major priority that the National Policy Forum identified and we at EPA think will avoid a lot of problems down the road and make the kinds of cumulative losses that we suffer and the ad hoc responses to them less of a problem than it has been.

Mr. **DeFazio**. Thank you, and I will follow up with a request, and if you could follow through on that, because it does seem to me to create a——

Mr. **Reilly**. I will give that my attention.

Mr. **DeFazio**. Thank you.

Mr. **Nowak**. Thank you.

The gentleman from New York, Congressman Molinari.

Mr. **Molinari**. Thank you, Mr. Chairman.

I have read the work put out by the Conservation Foundation. I find it rather fascinating.

In one area, the work talks about the difficulty with having a consistent definition of what is a wetland, and of course, there is a great deal of confusion out there on what is or what is not wetlands.

The Forum recommended that you try to adopt, for Federal agencies, State, and, where applicable, local governments, a single wetlands definition for regulatory purposes. It seems to me—I know it is difficult, but it seems to me that if you could adopt, at least on a Federal level, what we think is a good, workable definition of wetland, I think that the chances are that many of the States would adopt it as their own.

I am wondering what movement—I know that it is something that has been recommended. Can you give us a better idea as to what is being done to move toward the adoption of a definition that would be more useful and conclusive?

Mr. **Reilly**. This is an area, Congressman, that has had a good deal of attention over the past year or so, and I think it is one of the happier areas of collaboration among the Federal agencies. Particularly the Corps, the Fish and Wildlife Service, Soil Conservation Service, and EPA have worked hard on that, met frequently, and exchanged a good bit of analysis of information and have what we now consider a solution to that problem. We now have a single manual for delineating wetlands that all of us at the Federal level, those four agencies, will apply.

Whether we have adequately communicated that to other jurisdictions is a good question, and I am not sure of the answer to that, but it is something that we can give our attention to.

Mr. **Molinari**. All right.

Also in here, they talk about the fact that tremendous amounts of time and energy have been devoted to what they call a few relatively small areas and have ignored larger, more important areas, wetlands. Is there any program or plan in terms of minimum size to qualify as a wetland, or is that on a case-by-case basis?

Mr. **Reilly**. There was a proposal, as I recall, in the Forum affecting that, and perhaps some of the later witnesses can talk more specifically about the proposal itself.

As I recall, that discussion, was relevant to the fact that a very large amount of wetlands have been lost in the United States without any involvement at all by the Federal agencies, whether as a result of agricultural conversions, bottomland hardwoods in the South, a lot of activities in Louisiana that have incrementally contributed to very significant wetland losses, changes in hydrological circumstances, drainage that did not involve a point discharge.

All of these things that occur, chemical changes and sometimes contamination that altered wetlands' functions in and around urbanized areas, all of those resulted in very large wetland losses and got very little attention because there wasn't a government program that had jurisdiction to address them.

That kind of problem is one that is receiving increasing attention in some of the States. I know that the State of Maryland is very close, I think, to enactment of a non-tidal wetlands bill that will deal with a lot of inland wetlands that have not previously been subject to any kind of control. Other States are looking at it as well. I think the response to that has got to come primarily from those levels of government. But we can all work cooperatively in trying to help focus attention on some of these bigger alterations that we have missed.

Mr. MOLINARI. I have one last question, and that deals with the very difficult problem of trying to assess at what point the government could be accused at any level of taking a property right under the fifth amendment. I am wondering if you could help us comment on what limits you see in the government's ability to take property or to prevent the use of property before it constitutes a taking of private property. Now, that, I know, is a thorny question, but I would be very interested in your comments on that.

Mr. REILLY. It can be a very difficult question.

It has always seemed to me that the responsibility that the government has to try to avoid offending against the fifth amendment's protections for private property entail a change in public and private expectations. To the degree that land owners purchase wetlands with an understanding of the very limited uses to which they will be subject, to the degree that we all appreciate functions, roles, and that is accepted in the society, it seems to me it will be a lot easier to protect wetlands in the future than it has been in the past.

Obviously, these cases always involve very specific determination of facts and circumstances, and you cannot prescribe any kind of uniform results. But I think we have made progress in a number of States—I think, particularly, of California and Wisconsin—over the years at the State level, interpreting the similar language in constitutional provisions of the States, to striking a reasonable balance between protection for expectations that private property owners should reasonably have about their wetlands and also protecting the very important functions that wetlands have against impairment.

Mr. MOLINARI. Thank you, Mr. Chairman.

I have no further questions. I appreciate it.

Mr. NOWAK. I thank you.

The bells have indicated a vote. What I would like to do is have the next two questioners on each side stay and let everybody else go and vote so we do not interrupt the questioning, and then, when those members return, those questioners should still have time, hopefully, to cast their votes.

The next two questioners are Mr. Hayes and Mr. Pallone on our side and Mr. Packard and Mr. Hastert on our minority side.

Let us now turn to Mr. Hayes of Louisiana.

Mr. HAYES. Thank you very much, Mr. Chairman.

I have just a couple of questions. Let me assure you that this is of great importance to Louisiana, as you mentioned in your previous statement, and the questions are in the form of asking help, not in any form of hostility. We have got to have your help in order to survive in our State. I may be the only Congressman who is ever eroded out of office. [Laughter.]

We are losing 50 square miles a year. Now, during the course of the administration's positions and statements made by President Bush, the no-net-loss policy is the source of my first inquiry. By use of the word "net," are we looking at that from a State level or a national level? In other words, with the losses in New Jersey, the losses in Maryland, the losses in Louisiana, are they one-fiftieth of the problem mathematically, or are we addressing the issue proportionate to their impact upon the Nation?

Mr. Reilly. Let me say that the administration has not closed on a definition of no net loss or on the implications that it would have for a place with very special circumstances. Something like a quarter of the wetlands losses, I think, are occurring in Louisiana, and perhaps a quarter or more of the coastal wetlands in the country, in the lower 48, at least, may lie within that State.

I have looked at that myself, and it is very difficult to see how a no-net-loss standard could be applied to that State and be made to work. Fifty, 60 miles a year are really appalling losses. Some of them are due to natural erosion and circumstances; others are due to the changes in flow pattern of the Mississippi and flood works and, I gather, to canals and diking and things of that sort.

But I know that there is a good deal of attention being given right now to trying to stem the losses in Louisiana and a coalition for wetlands that has formed there to help do that, and increased attention by the governor and the State on all of that.

I would assume at this point, without speaking for the administration, that the standard would probably best, most practically, be applied on a regional basis. But I cannot say that definitively at this time. We have similar problems in one or two other States.

Mr. Hayes. My second question would be that since the word "net" is used, and "no net loss," does that allow a plan that is environmentally sound but that might include through such an example as dredged spoil materials being put in one area of wetlands in order to save others? Could you not be allowed to technically destroy some wetlands if the overall impact is the preservation of a much larger area and if you are doing so on an environmentally sound basis?

In other words, we are interested in enforcement, and we are interested in not losing, but does that preclude the possibility as a small loss in part of a plan that has an overall net gain that is significant?

Mr. Reilly. As a matter of definition, when the no-net-loss policy was agreed to, it did not contemplate the prohibition on any impairment or loss of wetlands. The Forum recognized—I think all of us recognize—that there can arise circumstances that will inevitably involve some loss, some diminution of wetlands. The concern has been to ensure that we compensate for those losses if they are unavoidable, if there is no way around them, in a number of other ways. So the answer to your question is that the example you cite is one that would not preclude the change in use.

Mr. **Hayes**. And my final question is, based on a little prejudice on my part, I am supportive of private stewardship programs. Has the EPA given any thought to means by which it could use tax incentives or any other tools at the Federal Government's disposal in order to encourage the implementation through private stewardship of effective programs that are environmentally sound?

Mr. **Reilly**. We have given thought to that, and I agree with you that those have been some of the most effective programs we have, particularly those by groups like Ducks Unlimited, Nature Conservancy, the National Audubon Society, many local conservatives. There has been an explosion in local land trusts over the last 10 years in this country, responding to a very strong groundswell of concern.

The tax laws are fundamentally important to the continued effectiveness of those groups, and we would support dedications, the continued deductibility of contributions, of contributions of some of these lands, as well as a number of other initiatives that might help further that effort.

Mr. **Hayes**. Thank you very much. That is the last question I have. Don't feel badly that people leave when you speak. It happens to me all the time. [Laughter.]

Mr. **Nowak**. We will now turn to Mr. Packard from California.

Mr. **Packard**. I appreciate your testimony, Mr. Reilly, and our opportunity to hear of your views on wetlands.

There are often cases where property owners that are looking to develop or water agencies looking to build reservoirs, dams, or other facilities, and State and local governments designing highways and freeways, and so forth, that impact wetlands, and often they will go through a considerable amount of time and expense—into the millions, often—in developing a plan and working with the State and Federal agencies in developing mitigation plans, only to find that, in the final analysis, after considerable time and expense, there is a veto coming from EPA, and it is dead; it is gone, and everyone sustains the loss of time and money.

Is there a possibility to develop some kind of a dispute resolution plan or program where it does not all wash down the drain in one final sweep and one final decision by EPA, where you can work out a mitigation plan of replacement and of restoration?

That is a very frustrating experience that we are seeing over and over again, and we have no place to turn once the veto is stamped.

Mr. **Reilly**. I understand.

Mr. **Nowak**. I wonder, Mr. Reilly, if you could think about that short question that you were just asked and the ramifications of it all. My plans have had to come——

Mr. **Packard**. Very good. I have other questions. I hate to be shortchanged.

Mr. **Nowak**. I don't want Mr. Packard to lose an election because we didn't vote here. He cannot ask any further questions. So if we would, we will just take a short recess and resume as soon as some of the other members who have left earlier come back.

Thank you.

[Short recess taken.]

Mr. **Nowak**. The subcommittee will come to order. We will return for the very copious answer to Mr. Packard's question.

I will recognize at this time Mr. Reilly.

Mr. **Packard**. Let me restate my question, if I may, Mr. Chairman.

Mr. **Nowak**. In its entirety?

Mr. **Packard**. No, just a reminder.

Now, the concern is that we do not have a dispute between different government agencies, a resolution plan, when developers, government agencies, have worked for years on projects.

Mr. **Reilly**. Well, you know, I am sympathetic to proponents' concerns that they move forward, that they develop their ideas. They spend money on planning and designing and studies and the rest and finally discover, well into the process, that it is not going to make it, for a variety of reasons.

I think that is a consequence of two or three realities about this process. One is perhaps to refer back to some of the educational concerns that were mentioned earlier. There is an insufficient appreciation, I think, of the functions of wetlands. There is historically a deprecation of swamps as somehow usable and valueless.

There is also, I think, on the part of Federal agencies very often a delay in getting into the kinds of environmental impact assessment processes that would identify very early on that a particular development may not just be inappropriate but unapprovable as a matter of Federal law.

We are in a position, when that happens, when a NEPA statement is prepared late or not at all, of being the bearers of bad news. We have laws to administer. We try to do it as predictably and in as timely a way as we can and yet end up very often, I am quite aware, being the bad guys in the process as we inform people of things that very often our staff believes should have been understood, should have been communicated, if not by the proponent and the locality early on, then, in a minimum, by the proponent government agency.

The best that I can say is that we will work to try to provide—and this is why I think advance identification ought to get such a priority—much more information ahead of time, to inject more certainty, more regularity, more predictability and consistency in this process.

The government, the Federal agencies, I think, could make a big contribution to that if we all worked together on it. I think, increasingly, and particularly in response to the President's priority for wetlands management, I think we will try to do that. I think we are likely to do better in the future than we have in the past.

Mr. **Packard**. I think often the EPA people do not attend the early meetings and the early activities, and thus we do not get their input until often 2 or 3 years later, and then it is the ax. That is very frustrating, when they are supposed to attend, and I am aware of personnel shortages and a significant amount of work to be done, but we often do not get the word or do not even get the impressions until after significant time and money.

But you still have not addressed my question. You have given justification for the system as it operates. But is it reasonable for the Congress—we will say the Congress—to develop a dispute resolution system where different government agencies, Federal Government agencies, are not in agreement? We may have the Corps of Engineers that gives us the permits to move forward, and yet EPA may not agree, and there may be an unresolvable dispute. Should we consider a method of resolving those disputes rather than giving one Federal agency veto power over an equal and a different Federal agency?

Mr. REILLY. Well, that raises a number of questions that I think should compel me first to say that, as far as EPA is concerned, we very rarely give the ax to a project. There have only been eight instances in the history of our administration of 404 where we have vetoed a project, and as you know, there are something like 14,000 permit decisions made every year. So it is a very infrequent affair.

Mr. PACKARD. I must have been one of the unfortunate eight. [Laughter.]

Go ahead.

Mr. REILLY. It is a very infrequent thing for the Agency to exercise a veto.

We have a referral process to the Council on Environmental Quality for a variety of issues. We have them for determining when the National Environmental Policy Act and environmental impact statements have to be prepared on a project. We have recently used that authority to refer some projects to CEQ, and it now is up to them to make a definitive determination.

The processes that we engage 404 with the Corps, I understand, I appreciate, have been worked out over many years. They respond to very important political concerns and values that different constituencies hold. Bob Page the Assistant Secretary of the Army for Civil Works reminded me the other day, that he made a suggestion that the authorities be transferred to one or the other, the Corps or the EPA, totally in the context of our National Forum.

He made it, he said, just before a coffee break and startled everybody with that suggestion, and people returned from the coffee break, a number of them saying that they certainly would not want to see it go to EPA lest we inject too extreme or environmentalist values, and others saying they would not want to see it go to the Corps for the opposite reasons, and both pretty much agreeing that we should not open up the process to try to change it lest it get worse.

I think that my experience with a number of laws that we administer has made me, frankly, impatient for the complexity, the extended appeals processes, the lack of finality in decisions that we make. I think sometimes we over-refer and over-review and over-appeal in our system.

It is not really intended to comment on the specific here, but it does suggest, I guess, that I would start by being reluctant to encourage yet another process of review when there are already several in it coming up from the district level and moving forward to headquarters in both the Corps and EPA.

Mr. PACKARD. Thank you.

In reviewing your action plan, I notice that there was no comment period, no public input period in it, that it was a panel that was selected, albeit a broad-based panel, from a variety of areas, but no real public input period. Is that common in developing a new policy of this nature?

Mr. **Reilly**. Do you mean the National Policy Forum on Wetlands itself?

Mr. **Packard**. Yes.

Mr. **Reilly**. No, sir, that is not correct. There were hearings held in three places, I believe, under the auspices of Governor Kean, I think, in New Jersey, and——

Mr. **Packard**. I am aware of that, but that is certainly different. Holding a forum out in a locality out in the hinterlands of the country in three locations is a long way away from being a public input for a water district in the central valley of California or a city in Southern California or my State in terms of being able to give comment. It certainly would be, I suppose, almost inconceivable that the interested parties on such a sweeping and overwhelming policy change would attend or send a representative to one of the three hearings out in the country.

I am looking for, as in fact is most often the case, where there is a public comment period where anyone and any government agency or any group may wish to send in comments and concerns and desires relative to the development of a new policy.

Mr. **Reilly**. Well, we tried in the Forum to invite all of the constituencies that were represented, which were a number of them, to do that.

Mr. **Packard**. I am aware of that, also.

Mr. **Reilly**. And then had the three hearings——

Mr. **Packard**. But even that can be structured, you see.

Mr. **Reilly**. It is certainly true that if we had been proceeding on a notice of proposed rulemaking, we would have had a formal comment period and review of a proposed regulation and that sort of thing. I am not aware that we actually have changed regulations in a way that would call for that. But I appreciate your point.

Mr. **Packard**. That is all, Mr. Chairman.

Mr. **Nowak**. I thank the gentleman.

We now turn for three very fast questions, unfortunately—and we would ask the other members to submit their questions in writing along with myself and Arlan Stangeland's questions—to Mr. Cardin from Maryland.

Mr. **Cardin**. Thank you, Mr. Chairman.

Mr. Reilly, I just really wanted to thank you for your help in our legislature this year, in moving with non-tidal wetland problems. You were extremely helpful in moving that legislation along.

I guess my comment—and maybe you want to respond in writing—is how do we take the good parts of laws in, say, Maryland or other States and interweave that with a national policy to preserve our wetlands?

I would appreciate it if perhaps you want to comment on it briefly now, and we could follow it up.

Mr. **Reilly**. I would be glad to.

I did meet with the speaker of the Maryland House and with the Governor and we talked about some of those questions. I think there was a strong concern that the legislation in Maryland respond to some national priorities and in fact exercise whatever delegation might be available. I will get back to you in more detail on that if you like.

I think it is a great initiative, by the way. I think it is a very impressive legislative proposal, and I really compliment everybody involved in it.

Mr. **Cardin**. You were extremely helpful in moving it along, and we appreciate that.

Mr. **Reilly**. Thank you, sir.

Mr. **Nowak**. I thank the gentleman.

We turn to Dennis Hastert from Illinois.

Mr. **Hastert**. Thank you, Mr. Chairman.

Mr. Reilly, it is certainly a pleasure to have you with us here today.

One of the things that is a frustration that I have found in my district—and we are in a growth district, in the Fox Valley area just west of the city of Chicago—is that as we start to develop or redevelop, where do you go? The Army Corps has one set of criteria. The EPA, with its water standards, has another set of criteria. The State has another set of criteria. It seems that, if you can do anything at all, it is begin to coordinate how we do things.

For instance, some of the water standards that we have been told that we have to meet with certainly have affected how our recharge areas are treated. But yet, when we go to look at who has charge of the recharge areas, it is not the EPA, it is not the IEPA, with it is the Corps of Engineers, and their criteria are strictly recreational criteria; they are not water quality standards criteria.

So I am looking forward to working with you and certainly the Corps to see us begin to delineate where those lines of responsibility are and how we can begin to really sort this out. It needs to be sorted out, and we certainly look for your leadership.

Mr. **Reilly**. One of the really distressing things about dealing with State and local officials who have problems of this sort, or developers, is to discover that they regard the Federal agencies as independent foreign powers, which, unfortunately, from time to time, they behave like.

Mr. **Hastert**. Sometimes they are, right.

Mr. **Reilly**. I think we are giving a lot of attention to that. The delineation agreement that we reached and two new memoranda of agreement are examples.

The final solution to the problem you describe is clearly a better process of comprehensive planning that weds everyone and all of the purposes and legislative authorities to a single concept for future use of an area, for future development of an area.

I would hope that we could be very supportive of that. Certainly EPA believes that that kind of approach is necessary to avoid so many problems down the road, and we will try to do it.

Mr. **Hastert**. Thank you.

Thank you, Mr. Chairman.

Mr. **Nowak**. Thank you very much, and let me thank the members for their forbearance on the oral questions.

We have promised Mr. Reilly that we would be finished by 12, and we would like to excuse him and have Mr. Dave Davis, who is the director of the EPA Office of Wetlands Protection, remain, and he has agreed to, so we may formulate any questions to the Director of Wetlands Protection.

Let me, for a concluding remark, call on Mr. Stangeland.

Mr. **Stangeland**. Just very briefly, thank you very much, Mr. Reilly.

I would just like to have you consider one other aspect. I agree with Mr. Pallone that there should be some wetlands that have a value that should never, ever be destroyed. So when you have a perfect wetland, or a very, very good wetland, it is virtually impossible to duplicate that which is man-made.

But you have some very, very low-grade wetlands where the man-made duplication could be far superior and could increase the amount of wetland available.

I know of one instance where a developer wanted to develop a wetland, portions of it, improve the existing, and mitigate substantially in another area. I saw it myself. I walked in that wetland; I took pictures of it. It was ludicrous to preserve that wetland, and we could have gotten a lot more wetland, certainly not pristine wetland but far better wetland than what we would have damaged.

That is something we ought to take into consideration if we want to increase the amount of wetlands available. I think it is something that there has to be a sensitivity to.

Mr. **Reilly**. Well, there does, and I confess, I have never seen any rebuilt or created wetlands. Senator Chafee was asking me the other day, Have you ever seen any of those? He has a strong feeling or a doubt that they really are as productive as any natural wetlands they would replace or substitute for.

I think the feeling within the Agency is that if it is possible to restore wetlands, to look at places which once functioned as wetlands, which had the appropriate hydrological circumstances and topography and the rest, that allows you to return them to a preexisting condition, then you are very likely to get good wetlands back, and that is a possibility in many areas—the Prairie Potholes, in the South, in bottomland hardwood areas, in areas of rice plantations and a number of places.

We have been reluctant to support or accept the fact that new created wetlands, artificial wetlands, where previous wetlands had not existed, would likely, without pretty good proof, function as well to provide the same services to wildlife and the rest. But I guess we would have an open mind on it.

We have been very wary of proposals that involve extensive engineering and permanent servicing, permanent piping of water, for example, which is a proposal that we have seen from time to time, for mitigation. That is something that I think we are going to have to work out. One of the first things I want to do is go out and see some of these restored wetlands and created wetlands and just get a first-hand impression of them.

Mr. **Nowak**. We want to again thank you for your time this morning and are looking forward to working with you on this and many other issues that we will have in common legislatively.

I guess you can see from the consensus of the forum that no one is happy with the present system. The present system just is not working, and we are not sustaining our wetlands with the present regulatory body that is out there, and we want to, as soon as possible, make a change. In fact, of course, your own Policy Forum came to that conclusion, also.

I think everybody is looking—some of the recommendations of the Forum, of course, look to the States. As we have looked in many of these other areas to the States, we find that we do not want to mandate—that was expressed today by Mr. Craig and others—in this area. However, incentives seem to be all right as long as the incentives are not applied in a way that is considered confiscatory.

But somewhere and somehow, we have got to get all of this together. I think we have a good start in looking at it, but you know, there is only so much you are going to do with the fewer dollars that are out there, and if we look at all the Federalism that has gone on, we are now looking at States that cannot run their own basic service programs, and I do not want to get into a discussion with any State in particular.

You look at Louisiana, which has been mentioned over and over as the largest player in this wetlands area, and it is not hard to tell why the Governor, who pledged to do all he could in this area, had to withdraw a previous authorization or appropriation for $35 million to even research the problem in Louisiana.

So I think we have got to formulate something that sensitizes those States, and I do not know if we do it by just telling them there is a problem. All of the combinations of the players that you had together to bring out the Forum recommendations—I think we have got the easy stage done. Now the tough part comes. How do you implement that? What legislative changes do we actually need, and what can you do even before that in your new role as EPA Administrator?

You have got a broad background in this area, and we hope that all of those regulatory measures which were talked about can be put in, but I think, over and above that, there is no question in my mind, between the 404 program—it is just not broad enough to do the job, and we are losing and losing and losing.

So, hopefully, we can get a program started that—and I am not going to compare it to the construction grants program, but if we did not have construction grants at 75/25 and then 55/45 and now for 3 more years a grant program, I wonder where we would be in that basic area.

This seems to me the next environmental problem that we are going to have to face with some type of incentive program, and whether it is a tax incentive, whether it is going to the oil and gas companies and saying, You're channelizing here; you've got to make contributions to this fund; whether we put together a new type of trust fund, some type of user tax—I don't know how we can do it with just, quote, regulatory changes, and no incentives back to the States.

They have got, of course, a 404 program in Michigan, but it is the only State, and none of the others have touched it. With the 402 you have 39 States permitting. But I hope that we can realize—and everybody on this committee, I think, is concerned about putting together something that is not going to be picked up by the States. I mean, if the State of Louisiana cannot even research the problem, what are you going to have to implement the problem?

But we will be looking forward to your staff's answers to our questions and then, hopefully, we will have some in-depth conversation as we develop a broader record to see what we can do to help EPA fulfill its total mission.

Mr. **Reilly**. Thank you, Mr. Chairman.

Mr. **Nowak**. Thank you for attending, Mr. Reilly.

Mr. **Reilly**. Thank you, sir.

Mr. **Nowak**. We will now turn to Mr. Pallone from New Jersey. Mr. Pallone.

Mr. **Pallone**. I want to ask Mr. Davis, about Army Corps of Engineers. I have had a lot of complaints that the Corps' public participation process is limited. What public participation programs are currently in place and how they can be expanded? Would the Corps support additional public participation opportunities specifically with regard to the wetlands permits?

Mr. **Davis**. I am afraid it will be a little difficult for me to speak for the Corps because I think they need to answer that themselves.

Mr. **Pallone**. Oh, I am sorry. Mr. Chairman, I thought that Mr. Davis was representing the Corps of Engineers.

Mr. **Nowak**. Mr. Davis is the Wetlands Director for EPA, and Mr. Doyle will follow, and he represents the Corps.

Mr. **Pallone**. All right, I apologize.

Mr. **Nowak**. Mr. Doyle is familiar with the Corps, and I am sure he could answer any questions as well as the Secretary. [Laughter.]

Mr. **Pallone**. No, I will go back to the EPA. I apologize.

There are three things I really wanted to ask with regard to the EPA. One is my concern with the net-loss policy. Why is it that we are hearing about a net-loss policy as opposed to a net-gain policy, which would seem to make a lot more sense, given the fact that we have lost so much wetlands nationwide?

Mr. **Davis**. The recommendation of the National Wetlands Policy Forum was in fact a two-part recommendation. It was that we achieve a no overall net loss in the relatively short run—in other words, stem the loss, stop the hemorrhage, if you will—and then, in the longer run, that we begin to rebuild the base through gains. And so it really is the intent always to move toward a gain situation to try to reclaim some of the roughly half of the wetlands that we have lost in the lower 48.

But I think everyone realistically expected that, at least as the first cut, the best we could do was to achieve a state of equilibrium where we were not losing any more.

Mr. **Pallone**. The problem that I mentioned before with regard to this net loss policy—and I hope you can comment on it—is my concern about allowing developers to come in and build on what is basically natural wetlands, and then replace them with reclaimed wetlands or even artificial wetlands.

I don't understand our policy. I would think that our policy should really try to preserve existing wetlands and, wherever possible, not allow construction on those wetlands. I am concerned that the term "net loss policy" is going to allow increasing destruction of existing wetlands, even if your artificial wetlands are kind of a last resort.

Mr. **Davis**. That is a concern that was raised by a good many people, and the Forum addressed that as well. The intent—and if you look at some of the additional language and recommendations in the Forum—was to try, wherever possible, to achieve an avoidance of loss as the first attempt, rather than to immediately move toward some sort of compensatory mitigation.

That has certainly been the policy that EPA has followed, or the position that EPA has followed over the years in terms of our particular regulatory responsibilities. We agree with you that you should, wherever possible, find alternatives to the action, to simply stay out of the waters and wetlands, and then only mitigate, compensate, for those losses that are truly unavoidable.

Mr. PALLONE. But how are we going to do that? There are so many instances that I can think of in my own State, which prides itself on the fact that we have a good wetlands policy, where natural wetlands have been built upon, and artificial wetlands have been created to compensate for them.

In most cases that I am aware of—and I do know first-hand from a number of situations in my district—it has not worked. Oftentimes, the permit was not even obtained. Someone just went ahead and built on the wetlands, then later tried to get the Army Corps permit, which they received on condition that they mitigate, and the mitigation really does not work.

What are you going to do to enforce it? How are you going to make sure that that does not happen?

Mr. DAVIS. Well, first of all, enforcement itself is one of the answers, and I think in recent years we have strengthened our enforcement policy and practice, both in EPA and the Corps. We signed a new memorandum of agreement with the Corps only in January of this year, which, at least as we, the two agencies, both view it, will tighten our enforcement capabilities, and it will largely prevent the practice of giving after-the-fact permits merely as a matter of course.

We will first look carefully to see if an enforcement action is warranted before we will immediately endorse the law that has already taken place. So I think enforcement will help.

But another portion of the problem that you are alluding to is simply the initial permit decision itself, even when the applicant is proceeding in good faith and there is no enforcement action needed. I think the answer there is that all the Federal agencies simply have to tighten up on the way in which we apply the permit decision criteria—in other words, the section 404[b][1] guidelines—because if we follow those as they are now written, we would not be allowing the kinds of losses that we are sustaining and then simply trying to mitigate them after the fact.

Mr. PALLONE. I have found in most of the situations that I know of were discovered by neighboring land owners or by citizen environmental groups and not by the enforcers, by the State or the Federal Government. That is one of the reasons why I would prefer to see most of these wetlands protection taken over by the EPA. I, frankly, would like to see the Army Corps out of it altogether. I know that Mr. Reilly did not agree with that, and I am not sure I understand why. Why do you feel that it would not be better for the EPA to take over the responsibilities completely?

Mr. DAVIS. I can only answer that from the standpoint of almost a personal view. Perhaps it would be better for EPA to take them over if one's only interest is environmental protection, but as Mr. Reilly pointed out, there are other interests in the Nation, particularly including development interests, and many people favor maintenance of the check-and-balance system that we now have between EPA and the Corps.

However, it depends largely on your personal objective. If it is primarily environmental protection, then EPA might be the better choice.

Mr. PALLONE. Let me ask you about these buffer zones or transition zones. In New Jersey, one of the major arguments during debate over a freshwater wetlands protection bill, which Ms. Davis was very much involved with, was over buffer zones, these transition zones.

My understanding is that the reason for them is, basically, protection of species. Different animals come from the wetlands and then have some sort of refuge in the buffer zones surrounding the upland area where there is development.

Is there anything being proposed in the Forum's recommendations or by the EPA that would take into consideration a buffer zone or transition zone policy?

Mr. DAVIS. I believe that the Forum did consider that in their recommendations and recognized that sometimes protecting the wetland is not enough.

There has been a mentality in this country that if you acquire the land and throw up a chain-link fence around it and keep out the bulldozer and the drag line that you have saved it, when in fact we now know that that is not the case. Not only do you lose the buffer and the contiguous areas, but you also cannot protect it against such things as air pollution and non-point-source runoff and other problems like that.

The buffers can be critical. More often than not, they are not protectable under our current legal framework. However, they may be protectable through the combination of authorities such as the Water Bank Program, such as local and State easement programs, and, of course, in the case of New Jersey and in Maryland, with their critical areas program, States have enacted those kinds of programs.

We believe it is important because, increasingly, we are learning that the upland areas contiguous to wetlands are critical for many kinds of functions, and I think that was brought home most clearly through some of the reports of the North American Waterfowl Management Plan in that saving Prairie Potholes in the upper Great Plains was not going to be good enough if we did not start saving some of the uplands around them, because the ducks actually nest on the uplands, not in the water, and so you really have to take these into account.

Comprehensive planning is another area where we can begin to combine these things.

Mr. PALLONE. I just wanted to ask one more thing—I imagine my time is running out—about the delegations to the States. I understand that, basically, the Forum feels very strongly that a lot of the responsibility should be delegated to the States. I have a real problem with that, in part because of my own State.

Now, I believe we do have very strong protection in New Jersey, but it was very hard fought, and it was not easy to accomplish. I feel that in many ways it was because of the Governor's intervention and constant pressuring, if you will, that we finally did get some protection, particularly with the freshwater wetlands.

I think it is going to be very difficult to get that type of protection in every State, and I am concerned about the delegation. I really do not understand why delegation is preferred, as opposed to having the EPA primarily responsible and not delegate a lot of these responsibilities to the States.

Mr. **Davis**. Well, there are a couple of ways that I could respond to that, perhaps. One, the Forum, I think, recognized in its own deliberations that preference for State programs did not necessarily mean wholesale abdication of the Federal role or that States should simply take them over without any requirements for minimal criteria to ensure that they would achieve the level of environmental protection that we all want.

Also, in the Forum's report, they were not talking just about, for example, the section 404 program. They were talking about a more comprehensive view of State roles through something called Comprehensive State Wetland plans and the combination of authorities for acquisition and management regulation, zoning, and many other things, which we now do not have in the Federal Government.

So the concept of a large-scale movement to the States was predicated on the States having authorities and capabilities and will to carry out a program that is more comprehensive than we have.

As far as the narrower question of the section 404 program, I think the record speaks for itself that EPA has not sought to turn that over to States on a wholesale basis. We have developed regulations that establish somewhat more detail on the criteria that were built into the law itself, and we have worked with and assisted States who were interested in the program, but in the end, only a very few States have come forward who felt that they could meet those criteria. And while we have tried to make it somewhat more flexible through revisions to our regulations, and we have provided other assistance, the simple fact is that there is no wholesale turnover to the States, and that is not EPA's position to do so.

Mr. **Pallone**. Thank you, Mr. Davis.

Mr. **Nowak**. We will now turn to the member from Mississippi, Mr. Parker.

Mr. **Parker**. Thank you, Mr. Chairman.

Mr. Davis, in Mississippi we don't have a problem as far as building on wetlands in most areas. In fact, the western part of our State, because of the levee system, much of the western part of our State, especially in the delta coming down, is reclaimed wetland, and that is one of the reasons that the soil is so fertile in our delta.

Now, my question is, how, in a general way, how does the EPA distinguish, how does the EPA versus the Corps, how do you look at marginal wetland? What I am classifying as marginal wetland, depending on the height of the river, and our wetland in my district and on the western part of my district, the Mississippi river, depending on the height of that river, the amount of wetland you have varies, to the extent that when the river is high, you have a tremendous amount of wetland there, even to the point of people putting trot lines for catfish out in a soybean field.

How do you view those marginal areas? I am asking you to answer for the Corps in one way, but I am going to ask them, too. But how do you look at it as opposed to how the Corps of Engineers looks at it?

Mr. DAVIS. There are two levels at which to answer that question. One concerns jurisdiction and the other concerns the regulatory response.

On the jurisdiction side, since we and the Corps now have a common jurisdictional methodology, I think it is fair to say that we are looking at them the same way, and that is that we look at a combination of soil, hydrology, and vegetation to determine whether an area is in fact a wetland, and therefore a water of the United States, and can be regulated.

In the case of areas that are sometimes flooded and sometimes not, the degree of flooding and the duration of flooding really determine the properties as to whether the area really is a wetland and a water of the United States. If it is flooded so rarely that wetland-type soils or hydric soils have not developed, and if wetland vegetation has not become established, then it is not a wetland, even though there may be water there occasionally, even deep enough to catch fish in. But if it is of such a short duration and so infrequent or unpredictabe, then it probably has not established its wetland character.

But at least we and the Corps are operating off the same jurisdictional methodology now in that regard.

Turning to the other half of the question, or the other half of the answer, we do view marginal wetlands, if you will, in terms of their own values. Let's assume for a moment that we are talking about something that is within our jurisdiction. If it is not, we are not even in the game. But if we are, then we look at the individual values of the site in terms of its water quality values, its flood control values, its wildlife value, food chain support, all of these things, and increasingly, we have methods that allow us to do that in a way that can be documented and perhaps replicated, and we determine from that whether or not there really is a significant impact or an impact that is significant enough for a permit to be denied or some other strong action to be taken.

Again, I think we and the Corps are converging on our methods for that, because in fact we are both using a method that was developed originally by the Federal Highway Administration called the Wetlands Evaluation Technique, and we are working on it together through an interagency committee that involves other agencies as well.

The Corps in fact are probably in the lead on that right now, working out of the Waterways Experiment Station in Vicksburg, and we are developing that to the point that we and other agencies can use it with increasing predictability to determine whether an area really is high value, low value, medium value and, therefore, what the regulatory response ought to be.

So while we still probably have differences in the field, those differences are narrowing, and they are not a matter of different policy; they are just a matter, perhaps, of lack of a totally standardized methodology at this point.

Mr. **Parker**. One other point I would like to make. It seems that those of us who are above sea level, barely, and those that are below sea level, like New Orleans, look at things in a little different way as far as the levee system, and it directly affects the wetlands.

We in Mississippi look at the levee system from the standpoint that it keeps the river away from us during flooding, that type of thing. The farther south you go, which is a very short distance from us, it goes into extreme, very large tracts of land that are contiguous wetlands throughout South Louisiana.

When you get to New Orleans, where the city is below sea level, everything seems to be separated. The levees are there to keep the wetlands from coming in on the city. The roads going in are above ground, or either the levees keep them away. It is a very unique situation and very different than most places in the country, and it is not a situation as far as building. It is more so down in New Orleans than it is in our area, but it is more just farmland. That is just a comment I wanted to make.

Thank you very much, Mr. Davis.

Thank you, Mr. Chairman.

Mr. **Nowak**. Thank you, Mr. Parker.

We will move to our next witness. Before that, however, I want to thank Mr. Davis for staying.

Mr. Stangeland has one more comment to make.

Mr. **Stangeland**. Thank you, Mr. Chairman.

Mr. Davis, just one question.

As I understand it, EPA identifies artificial wetlands as an innovative technology entitled to favorable funding consideration under the construction grants program, yet seems to oppose use of artificial wetlands as mitigation for lost wetlands. Can you reconcile that apparent inconsistency?

Mr. **Davis**. Yes, sir, I think I can.

The reason that we view them somewhat differently is, in the case of the regulatory program, the 404 program, we are trying to preserve the natural wetlands base, and we don't feel comfortable giving up a natural wetland for an artificial or created wetland when we are not confident yet that the technology is such that they will always provide the functions that natural wetlands do.

In the sewage treatment program, the use of an artificial wetland there in place of traditional or conventional sewage treatment technology is a much different risk, because if it doesn't work, the problem we face then is simply finding another way to clean up the wastewater, but we have not actually lost a natural wetland in the process, so we are more willing to take the chance that the system may not provide all of the normal functions of a natural wetland, plus the fact that it is not intended to.

It really is designed only to provide one function, and that is wastewater treatment. So we are really comparing the same thing under two very different sets of circumstances that I think is a difference that can be explained and is not irrational, if you will.

Mr. **Stangeland**. Thank you.

Mr. **Davis**. Thank you, Mr. Chairman.

Mr. Nowak. Again, thank you, Mr. Davis.

[Mr. Reilly's prepared statement follows:]

STATEMENT OF
WILLIAM K. REILLY
ADMINISTRATOR
U.S.ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
SUBCOMMITTEE ON WATER RESOURCES
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION
U.S. HOUSE OF REPRESENTATIVES
APRIL 12, 1989

Good morning Mr. Chairman, members of the Committee and ladies and gentlemen. I am William K. Reilly, Administrator of the Environmental Protection Agency.

I am very pleased to have the opportunity to address this Committee on the subject of wetlands protection. I have taken a keen interest in the topic for many years and it is now one of my highest priorities as EPA Administrator. President Bush has expressed his support for the protection of these sensitive and vital environmental areas in his 1990 Budget Statement. The Budget Statement of the President reaffirmed his campaign pledge of a national wetlands goal of "no net loss."

This morning I want to be able to provide you with an overview of my plans at EPA and to address some of the questions you may have.

Before addressing what EPA is doing about wetlands protection, it is important to establish the larger context in which EPA is cooperating. As part of the Administration's wetlands initiative, the President is establishing a wetlands working group within the Domestic Policy Council to evaluate wetlands policies and programs in the context of the no net loss goal. Under the initiative, each of the Federal agencies will fully implement and vigorously enforce existing wetlands protection laws. Each agency will also be directing research towards wetlands creation, restoration, and maintenance. The Domestic Policy Council task force will be considering the National Wetlands Policy Forum recommendations. Although the Administration does not yet have a position on the recommendations, I would briefly like to touch on the Forum's recommendations because of my involvement with the report as President of The Conservation Foundation. Over the last two years, one of my most challenging and rewarding tasks was convening the National Wetlands Policy Forum, at the request of my predecessor Lee Thomas.

The National Wetlands Policy Forum was a diverse group of 25 influential representatives from federal, State and local government as well as from the development, and environmental, and academic communities. Governor Tom Kean of New Jersey chaired the Forum and Governors Carroll Campbell of South Carolina and Booth Gardner of the State of Washington were vice chairmen. High level officials from EPA, the Army Corps of Engineers, Department of the Interior, National Oceanic and Atmospheric Administration of the Department of Commerce, and the

U. S. Department of Agriculture all served as ex officio members and provided information and guidance throughout. The Forum's membership included representatives from major environmental groups, as well as those often directly affected by wetlands protection efforts such as farmers, land owners, and housebuilders.

This diverse group met four times during 1987 and 1988 and released its final report, which many of you are familiar with, on November 15, 1988. The Forum's report contained over 100 specific recommendations for all levels of government and the private sector. The cornerstone of the Forum's report is the President's goal: no net loss of wetlands. The Forum calls for eventually increasing the quantity and quality of the nation's wetlands resources. The Forum recommended that this goal guide all levels of government action by incorporating it into a revised Presidential Executive Order on wetlands and into appropriate statutes. As noted, President Bush supported the goal of "no net loss" of wetlands in his Budget Statement; we all must work together to sort out the many complex issues that we will face in implementing that concept.

More specific recommendations included ways to strengthen the Clean Water Act Section 404 regulatory program to further reduce wetlands losses and to improve its efficiency and reduce delays. The Forum report also acknowledged the substantial losses that have occurred historically through agricultural conversions and recommended a national agricultural wetlands reserve to provide incentives to farmers to protect wetlands.

The Forum strongly recommended that State and local levels of governments take a more active role in protecting wetlands. The Forum's members observed that these units of government are close to the problems and have tools such as zoning through which to provide effective protection. The Forum also recommended that State and local governments undertake wetlands planning with support and participation from Federal agencies, to protect and manage wetlands and to coordinate numerous wetlands protection programs.

The Forum also made recommendations that would apply to all levels of government. These include developing a better information base on the nation's wetlands and providing better information to a broad audience on the functions and values of wetlands. Similarly, the nation's education systems were urged to enhance curricula to stress the importance of aquatic resources, including wetlands. Finally, they recommended that all levels of government increase the level of preservation and restoration of wetlands through acquisition, easements, and revised management approaches to land controlled by them. Restoration of wetlands is a key step needed to help offset wetland losses due to natural causes and ongoing losses caused by previous human activities.

Much to the credit of Governor Kean and the other Forum members, I believe that the Forum and its recommendations will likely be remembered as one of the signal events in wetlands protection in the 1980's.

We already are seeing ample evidence that the Forum's recommendations are being heeded. For example, Governor William Donald Schaefer of Maryland proposed and the Maryland legislature passed a bill to establish a freshwater wetlands protection program which contains the goal of no net loss. In addition, the National Governors' Association and the Association of State and Interstate Water Pollution Control Administrators have both recently adopted strong wetland protection policies that closely follow the recommendations of the Forum.

I would also like to note that, in January of this year, former EPA Administrator Lee Thomas issued an "Action Plan" for the Agency. The Action Plan specified seven areas in which EPA intends to take action. Those include:

1. Increase our use of advance planning techniques that will provide better predictability to the regulated publics while enhancing protection of wetlands,

2. Enhance our support of State, Tribal and local programs,
3. Continue to work with the Corps of Engineers to enhance the level of protection afforded by the Section 404 program,
4. Work with other Federal agencies, particularly the Corps of Engineers and the Department of Interior, to develop a strong national mitigation policy,
5. Increase the public information available on wetlands, and encourage the development of curricula for all levels of the education system,
6. Enhance our scientific understanding of wetlands including cumulative impacts,
7. Encourage wetland enhancement and restoration as a method for increasing our nation's wetlands base.

I believe that it is important to note that EPA did not enter the field of wetlands protection for the first time in early 1989. Since its founding, the Agency has been involved in various ways with the National Environmental Policy Act (NEPA) of 1969 and the Federal Water Pollution Control Act of 1972, which established the Section 404 permit program for regulating dredged or fill material. EPA's level of commitment and scope of activities remained relatively modest, however, until 1986 when former Administrator Thomas established the Office of Wetlands Protection.

The overall goal of the Office of Wetlands Protection has been to slow or halt the destruction and degradation of the nation's wetlands resource. The Office has continued its efforts to enhance the Section 404 permit program, but has also worked within the Agency as well as with other federal agencies to promote wetland protection. It has also increased its interaction with State, Tribal, and local governments and produced public information materials on the functions and values of wetlands.

I would like to take a few minutes now to outline some of EPA's most significant initiatives in wetlands protection.

We are continuing to strengthen our interaction with State, Tribal and local programs. The Administration's 1990 Budget request has money for development and administration of State wetlands programs for the first time, and we are working with other federal agencies, and the States to develop information on innovative financing for their wetlands protection programs. We are, for example, in the second year of a grant with the Flathead Indian Tribe in Montana to assist them in developing a wetlands program. We also have a new initiative to develop information and guidance for local governments that want to develop wetlands protection programs.

The Agency has established contact with several other Federal agencies to work more effectively to assure consistency in the treatment of wetlands. We are working closely with the Tennessee Valley Authority, Federal Emergency Management Agency, and other agencies on enhancing consideration of wetlands in floodplains management. We intend to work with the principal land management agencies -- Forest Service, Bureau of Land Management, Corps of Engineers, the Fish and Wildlife Service, and the National Park Service -- on wetlands and land management policies. EPA and the Department of Agriculture have several initiatives underway including efforts to improve public information, the role of wetlands in water quality maintenance, and reauthorization of the 1985 Food Security Act. Finally, we are working with NOAA to develop comprehensive digital data on the nation's coastal wetlands.

An important tool for EPA's interaction with State, Tribal and local governments and other federal agencies is advance identification and other wetlands planning processes. We are developing guidance for our regional offices and plan to issue information that will be available to State, Tribal and local governments to determine if such wetlands planning tools would benefit them.

Public information and outreach has been identified as an unmet need in wetlands protection. EPA has developed several products which provide information to a variety of audiences from the general public to specific groups such as agricultural interests. We also plan to develop with materials suitable for primary and secondary school education.

The Agency is looking at its own programs much more than we did in the past. We are actively working to integrate wetlands protection with our programs on non-point source pollution and water quality management. In addition, we are working with the Superfund and RCRA programs to insure that wetlands associated with sites are appropriately considered. Under RCRA, Subtitles C and D, we are working to ensure through the development of regulations the location of new facilities outside of wetlands. We are working to develop water quality standards that are applicable to wetlands, since the "water quality" in many wetlands does not lend itself to management with traditional open water type standards. Such new standards will be integrated with our efforts to encourage States to use more effectively their water quality certification authority to protect wetlands integrity.

EPA has an active wetlands research program which is investigating the effectiveness of required mitigation, water quality benefits provided by wetlands, and cumulative impacts. For mitigation, EPA is determining how successful various types of wetlands mitigation are and will develop information on how to design effective mitigation strategies. Improving water quality is a benefit widely attributed to wetlands. The EPA research is intended to quantify this benefit, so that the information can be used by decision-makers. Cumulative impacts result in large wetlands losses. Because impacts occur on different properties and at different times, it is often difficult to factor individual actions into the universe of all former and future actions. EPA is developing a technique that will provide a better accounting of such cumulative impacts on a watershed basis.

As you can see, EPA is active in many areas of wetlands protection. In a sense, this reflects our view that the only chance of success in protecting the wetlands resource lies in attacking the problem on all possible fronts. Clearly, EPA cannot do this job alone. Within the Federal government, we hope to join with other Federal agencies in drafting the new wetlands Executive Order. The new Executive Order will provide for more consistency of Federal action in wetlands policy and management.

While the activities and initiatives I have just outlined are central to EPA's wetlands program, they are often not the best known or the most visible. Clearly, the highest visibility belongs to the Section 404 program, in which EPA and the Army Corps of Engineers both have major roles. EPA is responsible for developing and issuing, in conjunction with the Secretary of the

Army, the 404(b)(1) Guidelines, which are the environmental criteria that must be met before a Section 404 permit can be issued. The Agency also has authority for enforcement against both unpermitted discharges and violations of permit conditions, which we typically use in cooperation with the Army and the Department of Justice. In addition, EPA has the ultimate authority to determine the geographic jurisdictional scope of waters of the United States and the applicability of the exemptions under Section 404(f).

EPA works with the Army Corps of Engineers on permit applications by providing comments on the environmental impacts of proposed activities and EPA positions on compliance with the 404(b)(1) Guidelines. In addition, EPA has the authority under Section 404(c) of the Act to prohibit or restrict the discharge of dredged or fill material at any site in the waters of the U.S. if we determine that the discharge would have unacceptable adverse impacts on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife, or recreation sites.

I would like to take this opportunity to highlight several recent accomplishments associated with the Section 404 permit program that will help to improve program efficiency and reduce confusion for the regulated sector.

In January of this year, the Department of the Army and EPA signed Memoranda of Agreement (MOAs) on enforcement and on geographic jurisdiction and the Section 404(f) exemptions. The Enforcement MOA provides EPA and Corps field staff with the policy and procedures needed to implement our shared enforcement responsibilities effectively and efficiently. The MOA allocates enforcement responsibilities between EPA and the Corps, with the Corps retaining the lead on Corps-issued permit violations and most unpermitted discharges and EPA, commensurate with resources, having the lead on the most important unpermitted discharge cases. Under the Geographic Jurisdiction/404(f) Exemptions MOA, the Corps will continue to perform the majority of the jurisdictional determinations and the determinations of the applicability of exemptions under Section 404(f). In making its determinations, the Corps will implement the newly developed Federal Manual for Identifying and Delineating Jurisdictional Wetlands, to which EPA, Army, Fish and Wildlife Service, and Soil Conservation Service recently agreed, and other guidance, interpretations, and regulations issued by EPA in coordination with the Army Corps. EPA will have the ability to designate special cases for areas where EPA feels it necessary to make the final determination of the scope of waters of the United States or the applicability of 404(f) exemptions.

These recent milestones are very important first steps. In the coming months, we hope to capitalize on this momentum by resolving additional policy issues, including an interagency mitigation policy, guidance on alternatives analysis, the definition of fill material, and the applicability of the Section 404(f) exemptions. With regard to the development of an interagency mitigation policy, we have re-initiated discussions with Army and have provided them with a draft mitigation policy for review and comment.

It is very important that we understand that the Section 404 program -- while a critical element in wetlands protection -- cannot solve all the problems. Indeed, the best statistics show that many wetland losses result from wetlands conversions that are not regulated by Section 404. The geographic jurisdiction under Section 404 includes virtually all wetland areas. By statutory limitation, however, the 404 program only regulates the discharge of dredged or fill material. When a wetland is drained without discharging the excavated material into that wetland, or some other water of the U.S., the activity is not regulated under Section 404.

In closing, I would like to say a few words about the goal of no overall net loss of wetlands. Because the Section 404 program controls only a portion of the overall impacts on wetlands, we cannot expect it to meet the national goal alone. Indeed, it is a national goal which must be pursued by all sectors of society -- all levels of government as well as the private sector. Only through a concerted effort by everyone whose actions affect wetlands or who have some authority to control impacts to wetlands will we, as a nation, be able to attain this vital but ambitious goal.

Thank you for the opportunity to be here today to discuss this important subject. I look forward to working with you toward enhancing the protection of this nation's wetlands resources. I would be pleased to answer any questions you may have.

Mr. **Nowak**. At this point, we would like to invite Mr. John S. Doyle, Jr., who is the Principal Deputy Assistant Secretary of the Army, Civil Works, to the podium, and we will—just for reference, I guess the most important thing about Mr. Doyle is that he got all his experience and his expertise while he was minority counsel for the Water Resources Subcommittee of the Public Works and Transportation Committee, from 1981 to 1986, then moving to his present job as Principal Deputy Assistant Secretary of the Army for Civil Works.

Mr. Doyle, it is always a pleasure to have you here, and again, we have your testimony in its total form which will be inserted in the record, and I will let you, then, if you will, summarize your remarks in any fashion you so desire.

TESTIMONY OF JOHN S. DOYLE, JR., PRINCIPAL DEPUTY ASSISTANT SECRETARY OF THE ARMY, CIVIL WORKS, ACCOMPANIED BY DAVID BARROWS, ASSISTANT FOR REGULATORY PROGRAMS, ASSISTANT SECRETARY'S OFFICE, DEPARTMENT OF THE ARMY

Mr. **Doyle**. Thank you, Mr. Chairman.

It is a real pleasure to return home to the committee again with its outstanding record and commitment to water quality in this Nation.

With me today is Mr. David Barrows, who is the Assistant for Regulatory Programs in the Assistant Secretary's Office.

What I will do, Mr. Chairman, is summarize very briefly. As you have pointed out, the testimony will be included in full in the record, and I will not go through the details of that testimony in my oral statement.

I would like to make a few points, though, to highlight the importance of wetland issues as we in the Army Corps of Engineers view them. I also will highlight the commitment that President Bush, I believe, has made and strongly is committed to in terms of improving our national performance with respect to preserving and protecting wetlands. Finally, I want to highlight, as best I can, the efforts we have under way at the Army in conjunction with EPA to do the best job that we can for the Nation in preserving this tremendously valuable resource that is so threatened.

I do need to point out, Mr. Chairman, that, as Bill Reilly indicated, the administration has not taken a formal position yet on the set of recommendations that is included in the Wetlands Forum package. There are plans under way in the very near future to convene an executive interagency task force that will help address many of the questions that are raised and, I am sure, many of the recommendations that are made in the Wetlands Forum package.

We in the Army are in total agreement, Mr. Chairman, about the conclusion contained in the Forum package related to the importance of wetlands to our Nation. We believe that we have always as an institution recognized how important wetlands are to this Nation, and I believe our record is clear in that respect.

There is a statement made by one of the later witnesses that really struck me. I don't remember which witness it was so I cannot give proper credit at this point. However, it really struck me as a very appropriate shorthand statement of how we got to where we are today with respect to our national views in terms of wetlands. The statement was something on the order of, "We no longer view wetlands as wastelands."

To me, there is a very strong message in that very simple phrase. We have progressed as a Nation over the past 50 years. With the benefit of increasing information over that time we now recognize that include swamps and bogs and marshes, which were considered to have very little value, have tremendously important ecological values that we are only beginning to understand.

It was that growing awareness in the country that brought us to the set of issues around which the Forum was convened 2 years ago. The committee is demonstrating a leadership role here today by beginning to address at the congressional level the question of what this Nation needs to do to better protect our wetlands.

The Forum, in my view, made a number of very significant suggestions. The Forum report is a true accomplishment, as has been mentioned by many before me and will be mentioned by many to follow. Great credit goes to Lee Thomas, whose idea it was, to Bill Reilly and the Conservation Foundation, to Brenda Davis and Governor Kean for their leadership roles, and to all of the participants in the process.

When the journey began more than 2 years ago, I think it is fair to say that many of the participants and observers began with views of skepticism, and maybe outright doubt, about the likelihood that a valuable consensus product could be developed in terms of wetlands protection. However, that is exactly what has been produced over the course of the 18 months that that body toiled. It represents an excellent point of departure for the national debate which I believe is certain to take place and needs to take place.

In the testimony, I have described in summary fashion our permit program and the responsibilities with respect to that program that we share with the Environmental Protection Agency. I have tried to indicate that it is a major program, in that we receive some 15,000 applications a year, with approximately 11,000 individual permit decisions. In addition, we make some 40,000 or so general permit decisions a year and about 25,000 jurisdictional determinations as well. I will not go into the detail of that process here, but I would be happy to answer any questions you may have.

I also have tried to point out in the testimony a sense of the kind of wetlands-related work that the Corps of Engineers is currently involved with in terms of doing. Its research puts the Corps on the cutting edge, I believe, in terms of attempting to answer some of the questions that need to be answered before we can move forward in a progressive way, questions like:

How do we evaluate what wetlands values and functions? How do we assess comparability in terms of answering questions like, What is no net loss? How should we measure it? As Congressman Pallone asked a few minutes ago, when can we properly and safely allow ourselves to use artificial wetlands creation as an offsite mitigation technique to replace wetlands losses and when should we not try to proceed in that direction?

Lastly, Mr. Chairman, before we get into the questions and answers, I would like to call your attention to four major accomplishments that have been achieved in the last 6 months that affect wetlands.

First is the development of a wetlands delineation manual. Bill Reilly referred to it briefly in his testimony. It is described briefly in my formal statement. The delineation manual is a culmination of years of work among the four major Federal agencies involved with wetlands protection—the Corps, EPA, Fish and Wildlife, and the Soil Conservation Service. Each of the four agencies will use it for purposes of delineating wetlands.

This is a very important development. It has taken us years, as I mentioned, to get to this point, but I believe it is going to have a tremendous positive impact in helping provide increased certainty and eliminate second-guessing among the agencies in determining the geographic extent of wetlands decisionmaking.

In addition, we have recently, in the last 3 months, entered into two memoranda of agreement with EPA, one with respect to how the two agencies will divide enforcement responsibilities. It maximizes the resources and expertise of the two agencies to do the best job that our two agencies can for our Nation's wetlands and enforcement of our wetlands protection laws. The second memorandum of agreement relates to how wetlands jurisdictional determinations will be reached. It sets out in clear and concise fashion the responsibilities of the two agencies for making those seminal decisions that are so important to the program, and it virtually eliminates overlap and duplication.

And lastly, Mr. Chairman, I would like to call to the attention of the committee a memorandum of agreement that we have recently entered into with the Department of Interior. It implements in our Corps civil works program the goals and objectives of the North American Waterfowl Management Plan and provides increased emphasis in our part of the National Water Resources Program on improving and preserving habitat wherever we can.

With that, Mr. Chairman, I will conclude my opening statement and answer any questions that you or the committee might have.

Mr. **Nowak**. Thank you very much, Mr. Doyle, and thank you for your very articulate summary of your statement; it certainly shows your in-depth knowledge of this area, and I think you will be able to play a larger and larger role as they take the Forum recommendations and try to bring those recommendations into a meaningful role in this wetlands preservation area.

Knowing your background and your participation in that Forum, I wonder if you could tell us, Mr. Doyle, if there are any further administrative steps you can see EPA, yourself, or any of the other agencies working on and taking to address some of those recommendations in the near future. From the administrative side, first of all, how is that going to be pulled together, would you think?

Mr. **Doyle**. It is my understanding, Mr. Chairman, that the set of issues in the Forum report will be addressed comprehensively by the interagency task force that will be convened shortly under the auspices of the Domestic Policy Council.

That is not to say, however, that, at least in my understanding, individual agencies are sitting still, doing nothing, waiting for that interagency task force to be convened. In the Army, as with EPA—and Bill Reilly described some of EPA's activities—we are moving out. In fact, we were moving out in advance of the report of the Policy Forum to implement on our own some of what came to be its recommendations.

We are, for instance, working with EPA and making progress on a joint mitigation policy that is so important to the operation of this program. We are also examining, and have been for months, possible permit processing fee schemes which is another recommendation made by the Forum that we had been working on well in advance of the report being finalized.

The delineation manual that Bill Reilly and I referred to is a mechanism to address the definition problem that was raised in the Wetlands Forum package. The jurisdiction and enforcement MOAs also addressed in the Forum recommendations. In addition, we have been, for the last 3 years attempting to beef up the Army resources that we believe are appropriate for our regulatory program and wetlands preservation activities.

Mr. Nowak. Mr. Doyle, it seems that, after those administrative programs, hopefully, become a reality, we will still have an overlap of—if we are going to actually accomplish the goal of the Forum, we will have to have legislative changes as well, either to fill in the gaps or to actually broaden the present program, and I don't know if that will be more Corps responsibility, if you will look at other areas other than dredging and filling and broaden your responsibilities, or whether we turn more of this regulation over to the States.

But, as I made mention when Mr. Reilly was here, how do we have, quote, incentives for the States to actually do this work? It is one thing to say it is nice, it would be a great idea, but under the existing procedure, if we don't make legislative changes—I don't think you would make them administrative—you could drain a huge wetland or you could channel, if you did it carefully, in a certain area without getting a U.S. Army Corps permit or a Federal EPA action, and you would be reducing wetlands in the State, if they did not take any action or if they allowed that continuation of the process to reduce the wetlands in the State.

You would have one heck of a time trying to get no net loss if you took their actions and your actions together, because even if you provided 100 percent mitigation in both quality and quantity, you still could not account for the net loss you are going to get from the other side of the State action or inaction, as the case may be. I wonder if you could have any idea as to how we fill that gap, and do we do it federally or allow the States to control that program, and will they do it?

Mr. Davis. Mr. Chairman, that is the right set of questions. The Wetlands Forum made a number of very significant contributions to the debate that is taking place on wetlands preservation. One of the most significant, from my perspective, is the framework that it provided us for addressing wetlands issues. It made the point very clearly that roughly 80 percent of the activities in this Nation that currently result in the loss or degradation of wetlands are activities that are not covered at all by the current regulatory scheme under section 404 of the Clean Water Act. From an educational perspective, that is very important to me and to the Army Corps of Engineers. Oftentimes, because our 404 regulatory program is the only Federal regulatory program addressing, to some extent wetlands loss, people make a connection that the loss of wetlands must be due to improper enforcement and administration of the 404 regulatory program, when in fact that, I believe, is not the case at all.

The Forum also very strongly makes the point that a number of members here in the committee made that we need to address wetlands issues in a context of very important environmental values that must be protected, on the one hand, and on the other hand the important national values that are affected by decisions with respect to the use of wetlands. These other factors include very important flood control, life-saving values, for instance, in Mississippi; very important property values in Idaho and other parts of the country; and very important national energy development values that also must be considered.

Striking its proper balance is a fundamental point that I think this committee understands, but I am not sure that others understand it yet as well as they will as the debate continues. As we approach the questions of no net loss and preserving the wetlands that we have, we have got to recognize that there is a competition of values that we have to deal with in making wise national decisions.

With respect to the recommendations in the Forum report that the States play a greater role in the program, I would personally agree. I think that the program needs to move in that direction in order to better accomplish our Nation's water quality goals. We need to have more State involvement and more State participation in the program, but I think we also have to be honest with ourselves and recognize the history of the program.

We have 17 years of experience with section 404, we have both an authorization in section 404 and a congressional direction to have the States participate in the program and receive delegation of section 404 responsibilities. Yet, as has been pointed out, only one State, the State of Michigan, has come forward to assume those responsibilities. Others, I understand, are currently looking at the possibility of assuming 404 program responsibilities. So, the matter of having States assume greater program responsibilities is an excellent goal, but it is not something that is going to happen overnight.

Mr. **Nowak**. In the Forum newsletter, abbreviated as it is, that was issued in 1988—I refer to number 5, I would expect, of the Forum newsletters that came out—they make the statement that they realize that all of the recommendations will require significant increase in the resources devoted to wetlands protection and management. They talk about some suggested possible sources for obtaining additional funding, and yet we find no place in today's conversation that anybody is going to be looking at increased funding to accomplish what the stated goals are of the Forum. Where do we look to get that additional funding?

Mr. **Doyle**. The Forum suggests that we need to look at every level of government—Federal, State, and local—and at nongovernmental sources as well, and I would certainly agree with that general proposition. The Nation is not going to be able to achieve a no-net-loss goal unless we have the strong support of every sector of our Nation. In the Army——

Mr. **NOWAK**. Will the administration and the interagency task force that is set up—do you believe, John, that that will be presented to Congress as a recommendation of that task force, an increase in funding, or a revenue source if we want to make it revenue-neutral?

Mr. **DOYLE**. I can only speculate, Mr. Chairman, but I believe the answer to that will be yes. The task force will look at the whole set of Forum recommendations, and at current agency resources. It also will look at other suggestions for improving our Nation's resource base and do all of that in a framework of our overall budgetary requirements. The task force will then make some recommendations that will be communicated up here to the Congress about what things we need to do beyond what we are currently doing.

Mr. **NOWAK**. I would hope that that becomes a two-step process of not only identifying the needs but giving us the source of the revenue. It would be difficult to identify the needs and then for us to go to Danny Rostenkowski and say, "Give us the revenue or develop a program."

So we must try to match these things up in this atmosphere, and I am sure the agencies are looking to identify funds that they can shift, but I really fail to see how that is going to give us the required incentives for the States to get active in the program. If one out of the 50 have done it now—and I had a call recently, in fact yesterday, from the director of that Michigan program, who wanted to talk to me about all the problems. So we will be meeting with them to see what they have already found in their quest to run the program.

Mr. **DOYLE**. Mr. Chairman, I would be remiss, I think, if I did not make the point that we in the Army have been, over the course of the last few years, attempting to increase as best we are able the resources that we dedicate to this program. In 1985, for instance, we spent about $53 million on our regulatory activities. In 1988, that had gone up to a request for $60 million. Our expected funding level for this year, 1989, is $60.4 million, and for fiscal year 1990, we are suggesting a regulatory program of $69 million.

We are not waiting for anyone else. We are trying to move out, and have been for the past few years, to beef this program up.

Mr. **NOWAK**. Thank you very much, John.

Let me turn to our minority leader, Arlan Stangeland.

Mr. **STANGELAND**. Thank you, Mr. Chairman.

I, too, want to commend you, John, for your summation of what is a very extensive piece of testimony, and I certainly look forward to reading it more in depth.

In your testimony, you have a discussion on which I have a few questions; I have a number here that I will submit for the record. I am not sure we all have to go through them all here in the open forum. And there again, anyone who wishes a copy of the questions that I submit is more than welcome to have them.

In your testimony, you have some discussion of project downsizing, and you specifically cite two examples: reduction of a navigation channel from 1,000-feet width to 800 and the construction of a 20,500-acre-feet storage reservoir in lieu of a 30,000-acre-feet.

I assume these changes will result both in reduced cost and reduced adverse environmental effect. I am certain that an additional 200 feet of navigation would have had no effect in averting the recent Alaskan oil spill, but reducing a channel from 1,000 feet to 800 feet might carry some increased risk. How do you go about balancing that risk along with other environmental and economic effects?

Mr. Doyle. Well, we certainly look at the whole panoply of considerations that must be taken into account when we design and build a water resources project of any kind. In both of the instances that you described, both the U.S. Army Corps of Engineers, and the local sponsors of those projects concluded that the environmental and economic benefits that were achievable by down-sizing the project could be achieved without any unacceptable risk from a safety perspective.

Mr. Stangeland. We have heard some criticism that the 404 permit program is too time-consuming. Do you have any thoughts on ways that this program could be expedited while still maintaining its effectiveness?

Mr. Doyle. That is a question that I have been wrestling with for 10 years and most immediately the last 2½.

We are making progress. We are getting better. On the other hand, it needs to be recognized that as we have more and more laws and requirements that we have to contend with as we make our regulatory permit decisions, there inevitably is a motivation to extend the time rather than to reduce the time.

It seems to me that the kinds of things we have accomplished recently with EPA represent a category of activities that perhaps offers the most potential future progress in the future for making regulatory decisions more quickly and more predictably. I am talking about the agreements with EPA on enforcement and jurisdictional responsibilities, and the agreement with EPA, Soil Conservation Service, and Fish and Wildlife Service on wetlands delineation methodologies.

We need to go beyond that and complete our work in defining an acceptable mitigation policy. We need to jointly develop with EPA practicable alternatives guidance that can be provided to the field. We have got to get the two agencies to eliminate as much as possible any disagreement that might exist, intentionally or otherwise.

That is one major step that can be taken to achieve our objective. The other, of course, is to increase resources.

Mr. Stangeland. Now, the development of the wetlands delineation manual by the Corps and the other Federal agencies is an encouraging sign of Federal cooperation. I realize it may be too early to tell, but do you have any preliminary readouts of the effectiveness of the manual and its reception by the various agencies?

Mr. Doyle. No, sir, I really do not. The manual only went into effect about 4 weeks ago and so we only have a month's worth of experience. However, the reaction of all four agencies has been uniformly positive in terms of predictions of how it will work. In addition, both the Corps of Engineers and EPA are beginning to marshal training programs to make sure that field personnel properly understand how the new agreement is to be implemented.

Mr. Stangeland. I understand that some activities covered by the 404 permits are handled by a nationwide general permit. Could you tell us generally the number of nationwide permits and also the general types of activities that are covered under a nationwide general permit?

Mr. Doyle. There are 26 nationwide permits currently in existence. Those nationwide permits come as a result of the authority and direction granted by the Congress to the Corps and EPA in section 404[e] of the Federal Water Pollution Control Act. They are permits to cover activities that are similar in nature and will have only minimal adverse impact the environment.

Mr. Stangeland. Then one last question, I guess, and it is a question that was asked of Mr. Reilly by another member.

Wetlands owners frequently complain that if the government prohibits the draining of their land, the government has effectively taken the land for the public benefit. They argue that this taking denies them a valuable property interest which requires compensation under the fifth amendment.

Can you comment on the argument and indicate what limits, if any, you see in the government's ability to restrain the use of wetland owners' property rights?

Mr. Doyle. That is the same issue that Congressman Molinari raised earlier in the morning when Bill Reilly was here.

I have not researched the issue personally, so it would be difficult for me to define for you all of the takings implications associated with the regulatory program that we operate. I do, however, believe that it is possible that certain decisions in our regulatory program could be found to be takings. The categories of decisions that would be most likely to have takings implications are permit denial decisions and permit authorization decisions where significantly adverse conditions are attached to issuance of the permit.

I also think that Bill Reilly's response to Congressman Molinari's question was an excellent one. There are things that we can do generally to minimize our exposure, and the better able we are as a Nation to create an environment that does not increase the economic value of wetlands, the less exposure we will have to potential taking decisions in the regulatory program.

Mr. Stangeland. I have further questions, Mr. Chairman, but I think, in the essence of time, they can well be submitted to receive a response from the Corps.

Mr. Nowak. Without objection, those questions will be submitted in writing to the witness and the responses will appear at this point in the record.

[Questions submitted by Mr. Stangeland and Mr. Nowak to the Corps of Engineers and responses follow:]

Mr. Stangeland's Supplemental Questions to John S. Doyle, Jr., and Responses

Question. I understand that only one state—Michigan—has assumed the 404 permit program. In your opinion, how effective has this state assumption process been? How many or what proportion of the states do you think would be capable of administering this program both today, and, say, within the next couple of years?

Answer. Very few states have shown interest in assuming the Section 404 permit program. We would favor a process whereby states would be encouraged to assume the program but the existing process is apparently too costly and cumbersome. An assumption program based on performance standards would seem preferable, where failure to meet the standards would be grounds for withdrawal of the 404 program from the state. We believe many of the states have the capability to assume Section 404 because they have their own strong programs.

Question. We've heard Louisiana cited as an area that is losing some 35–40 square miles of coastal wetlands per year. I understand that the Corps is leading a study with assistance of other agencies to address this problem. What is the current status of this study? Do you expect the study to be able to differentiate between areas lost due to naturally occurring conditions from those lost due to both direct and indirect effects of man's development activity?

Answer. The Corps of Engineers, in cooperation with the State of Louisiana and other Federal agencies, has intensively studied the causes of wetland loss and has begun some major initiatives to slow, or reverse, the loss of wetlands.

To combat the loss of wetlands and protect other vital natural resources in coastal Louisiana, the Corps is participating in and/or leading several significant studies and programs. The Land Loss and Marsh Creation Study is in the Feasibility Planning Phase with a final resport scheduled for completion in May, 1992. This study will assess wetland preservation, restoration, and enhancement alternatives that could be implemented under current criteria and policy.

A second study will identify a comprehensive plan for dealing with the wetland loss problem and address alternative solutions. The Reconnaissance Phase of the Louisiana Comprehensive Study is scheduled for completion in July, 1989.

The Mississippi River Delta Study will determine the advisability of significant modifications of the Mississippi River and Tributaries flood project and the Mississippi River Ship Channel Project in the interest of addressing the land loss problem in the Louisiana coastal area. This study will evaluate the feasibility of large-scale diversions of flows and sediments from the Mississippi River to shallow water areas for building new lands. The Reconnaissance Phase of this study is scheduled for completion in September, 1989.

Coastal and deltaic processes are long-term and complex; and no differentiation of areas can be made on the basis of the dominant cause of coastal wetland loss. Certainly, human activities are a contributing factor to wetland loss. However, other actions such as sea level rise, storms, subsidence, erosion, and saltwater intrusion interact upon and intensify the resulting wetland loss.

Question. Executive Order 11990 has been cited by several groups including the Wetlands Policy Forum as being in need of revision. Are you aware of the shortcomings of the Executive Order and how it might need to be revised?

Answer. As I stated in my testimony, implementation of the Wetlands Policy Forum recommendations will be addressed through an interagency task force to be established soon under the Domestic Policy Council. A judgment on whether the Executive Order needs revision must await the deliberations of the DPC and be considered relative to the overall action plan to be developed.

Question. We understand that the Administration has stated its plans to adopt a national goal of "no net loss of wetlands." Could you provide us with some insight as to the anticipated schedule for convening task groups or other activities that would lead toward this goal?

Answer. As noted in my testimony, an interagency wetlands task force under the Domestic Policy Council will be established to address this issue. We expect this group to meet in the near future.

Question. Please elaborate on plans by the Corps and EPA to inplement the memorandum of agreement (MOA) on geographic jurisdiction and 404(f) exemptions, particularly the use of EPA's advance designation of "special cases." How many "special cases" have been identified by EPA thus far?

Answer. The MOA went into effect on 20 March 1989. The Corps will make all jurisdictional and 404(f) exemption determinations, except when EPA designates a special case. Such determinations will be based on guidance developed by EPA. The Corps and EPA will make jurisdictional determinations using the new Federal Manual for Identifying and Delineating Jurisdictional Wetlands. EPA has not designated any special cases at this time and thus all jurisdictional determinations are presently being made by the Corps.

Question. I understand that EPA and the Corps are both working on a model project along the Des Plaines River in Illinois which would use restored and artifical wetlands for recreation and flood control benefits. How far along have you gotten on the project and what are the results thus far? Could you describe the Corps general authority and capability for undertaking wetlands creative and restoration projects?

Answer. The Des Plaines River Wetlands Demonstration Project was developed with support from local sponsors and private organizations and supplemental funding from EPA anmd FWS and is located 35 miles north of Chicago and incorporates 2.8 miles of the Upper Des Plaines River and 450 acres of riparian habitat. The river drains 200 square miles in southern Wisconsin and northeastern Illinois. River water quality has declined during the last few decades and is polluted with both non-point contaminants, primarily from agricultural activities within the watershed, and point source contaminants from domestic treatment plants.

The project is intended to provide information, through research, to assist in the development of wetland areas and to assess the ability of wetlands to improve water quality, enhance recreation, and reduce flooding. The project site has been under development since the early 1980's and has only recently been completed. The Corps was not involved in the early development of the project but has provided technical assistance through a representative from our Waterways Experiment Station to the Technical Advisory Committee during the last three years.

The project has not reached operational stage yet so no results can be presented. However, several research proposals are being prepared by university staff at Ohio State University and other institutions to initiate studies at the project.

The Corps Wetlands Research Program at the Waterways Experiment Station will consider conducting segments of its ongoing wetlands values research for regional studies when current research on bottomland hardwoods is completed in 1991. After bottomland hardwoods, the next priority area of wetlands research for the Corps is in the northcentral United States. We are looking at the Des Plaines Project as a possible site for further research, particularly for water quality studies.

The Corps also has specific authority related to this area under section 45 of WRDA '88 however, because of pressing needs to look at wetlands from a national perspective, we must use scarce Federal resources to address aspects of our wetlands R&D program that promise to have much broader national applicability. Furthermore, the level of funding specified in section 45 is $2.2 million, which is very high when compared to the wetlands research we are presently funding; therefore, its inclusion would adversely impact on our overall research effort.

Question. What are the Corps plans with regard to the nationwide permit program, the definition of "fill material," the analysis of cumulative impacts, and the determination of adequate mitigation?

Answer. Over the last few years the Corps nationwide permit program has become more complex and resource intensive. The Corps is working on revisions to alleviate these problems. In addition we plan to propose revisions to some of the existing nationwide permits and propose several new nationwide permits. We have ongoing discussions with EPA on the definition of fill material, cumulative impacts, and mitigation, which we will continue. Furthermore, we believe that the Army and EPA will soon reach agreement on a joint mitigation policy under the section 404(b)(1) Guidelines.

Question. What additional guidance will you and EPA provide on the 404(f) exemptions? How soon do you expect this guidance to be available?

Answer. Guidance on 404(f) exemptions is developed by EPA in coordination with the Corps. To the best of our knowledge, EPA has no specific plans to issue additional guidance at this time.

MR. NOWAK'S SUPPLEMENTAL QUESTIONS TO JOHN S. DOYLE, JR., AND RESPONSES

Question. When the Corps of Engineers performs a cost benefit analysis of a proposed project, how are wetlands values developed and considered? In performing such an evaluation, what time paramenters are placed on the life of the wetland, that is, do you consider that a wetland may exist, or may have existed, for centuries beyong the life of the proposed projects?

Answer. The development and consideration of wetland values includes both nonmonetary and monetary values. The monetary aspects are treated in the cost benefit analysis, and are handled commensurate with all other financial cost aspects of the project. The non-monentary aspects of wetlands value are considered through various regulations and procedures which govern water resources plan formulation. For example, all project studies are subject to the Fish and Wildlife Coordination Act, the National Environmental Policy Act, and the Clear Water Act, to include compliance with the section 404(b)(1) guidelines. While each of these acts has somewhat different foci and procedures, taken together they require identification of impacts through direct consultation with the agencies responsibile for wetland habitat and quality and provision of justifiable mitigation of those impacts through specific measures. While it has often been our practice in the past, the Water Resources Development Act of 1986 requires that a mitigation plan be submitted to Congress to accompany any proposed water project. Thus, mitigation of wetlands impacts in a nonmonetary sense is fully incorporated into plan formulation.

Question. Please describe the efforts of the Army Corps of Engineers in developing wetlands restoration technology and what is your opinion of the current state of that technology?

Answer. The Corps role in development of wetlands restoration technology has been a result of four research programs at the Waterways Experiment Station: the Dredged Material Research Program (DMRP); the Environmental Water Quality Operations Program (EWQOS); the Environmental Impact Research Program (EIRP), and the Wetlands Research Program. During the DMRP, we demonstrated that wetland habitat could be developed using dredged material in intertidal areas. During EWQOS, the questions was asked whether flood-tolerant plants (some wetland species) could be used for revegetation of reservoir shorelines and the answer was yes in many cases. Within the EIRP, the question whether a combination of wetland vegetation, upland vegetation, and low-cost construction materials can be effectively used for shoreline erosion abatement is currently being investigated. Within the Wetlands Research Program, wetland delineation and functional value research also has elucidated ways and means of restoring wetlands by being able to characterize the habitats of the wetlands being studied. Many of the questions of wetlands restoration have been answered, particularly those dealing with coastal environments, but many remain. We have an adequate state of technology for addressing some wetland habitat types, such as coastal salt marsh in calm energy environmental, but marginal technology exists for other wetland types, such as restoring bottomland hardwoods and some freshwater marshes. Questions remain regarding how to break seed dormancy of freshwater wetland plants and how to successfully transplant certain freshwater marsh species. Other questions remain concerning inland freshwater marsh hydrology and species' adaptability to changing hydrology. Questions also remain as to which wetland plants can grow on certain soil types and there are many other questions. Unfortunately, as with most natural systems, there are so many variables that there are often more questions than answers. However, I will say that as a result of the research in our programs, the Corps has a good understanding of wetlands restoration, but there is still a lot of work to do.

Question. Section 1135 of the 1986 Water Resources Development Act authorizes the Secretary of the Army to review the operation of water resources projects to determine the need for modifications in the structures and operations of the projects for improvement of the quality of the environment in the public interest. In my opinion, improvements in the quality of the environment in the public interest would include wetlands related activities. Would you please describe for the committee what efforts have been taken under section 1135 to date, and what efforts are planned. (The Administration has not been interested in pursuing projects under section 1135.) Could you please describe why the Administration has not actively pursued the use of that authority.

Answer. I agree that section 1135 could be used to address wetlands in the context of potential modifications to completed and operating projecs for the purpose of improving the quality of the environment. In 1987 the Corps of Engineers surveyed its Divisions for candidate projects for a demonstration program under this authority. Wetlands both of a riparian nature downstream of impoundments, and freshwater wetlands created by sub-impoundments, were among those candidates suggested. In the final analysis, however, it was concluded that budget constraints did not permit the funding of this type of initiative. We are continuing to review the Corps program to identify opportunities for adjustments that would more closely reflect President Bush's policies and priorities. That review will include taking a second look at section 1135. I note that the demonstration program and report authorized in section 1135 were extended to a five-year period, from an original two-year period, by the Water Resources Development Act of 1988.

Question. Section 404 of the Federal Water Pollution Control Act provides for the state assumption of the permitting program except for waters traditionally used for interstate and foreign commerce. One of the recommendations of the Forum is increased participation in the states in the permitting program. Would you favor a change to 404 to allow states to also assume permitting authority in these traditional navigabel waters?

Answer. As noted in my testimony, the President is convening an interagency task force under the Domestic Policy Council to look at all the recommendations made by the National Wetlands Forum. Until that task force provides recommendations on state assumption, we are not in a position to answer this question. Once the task force recommendations are formulated, we will apprise you of our position.

Question. Please describe what efforts are made by the U.S. Army Corps on Engineers to monitor compliance with 404 permit conditions, and do you believe that increased wetlands protection would occur if the Corps assured greater compliance with 404 permit conditions?

Answer. The Corps does not have the resources, nor do we believe it is necessary, to monitor compliance for each permit it issues. However, the Corps does try to maintain an effective monitoring program. The Corps spot checks issued permit activities for compliance, concentrating on those with the most potential for adverse impacts. Furthermore, the Corps requires that permittees certify that they have completed their project in accordance with the permit conditions. The applicant certifications will also be spot checked. Finally, we have suggested that district engineers look at cooperative arrangements with states on inspection and reporting.

In our judgment, the Corps compliance monitoring of 404 permit conditions should be increased from its current level. As we implement a stronger compliance program we anticipate some increase in wetlands protection.

Mr. STANGELAND. Thank you, Mr. Chairman, and thank you, John.

Mr. NOWAK. Thank you very much, and I might just mention that I have other questions that other members have raised with us to be submitted both to the Corps and the EPA. We will do that shortly, and if you could bring those answers forth within a week, prior to our next hearing, we would appreciate that.

Mr. DOYLE. Yes, sir.

Mr. NOWAK. Let me turn to the gentleman from New Jersey, Mr. Pallone.

Mr. PALLONE. Thank you, Mr. Chairman.

I noticed, Mr. Doyle, in your statement, it says that the Corps permit process usually begins when an application is received. My question is, What about the instances where you don't receive an application, which is one of the things that I am most concerned about? What is the Corps' or perhaps, by reference, the EPA's responsibility in terms of dealing with those situations where you don't receive a permit because they just don't bother, or you don't receive an application?

Mr. DOYLE. If we are talking about an activity that takes place in a wetland that should require a permit and does not have a permit, then we are talking about an enforcement situation, because the law is clear. Any discharge of dredged or fill material into a water of the United States, which has been defined to include wetlands, can only occur in accordance with a properly issued permit.

We have limited resources to go out and investigate through field surveys and otherwise permit related activities may be that we are not aware of by virtue of permit. We have people, some of whom you identified in one of your earlier questions, who help us do that—State regulatory bodies, local zoning commissions, your neighbor and mine, environmental groups who are aware of the requirements of the law. When there are problems, they often report those problems to us or to EPA. That is not at all to say that we come close to learning about all of the activities that we would like to know about and need to know about.

Mr. PALLONE. Well, could something be done in terms of our national wetlands policy, or what is being proposed today as potential legislation or regulatory action, to have a more effective enforcement in that regard? I guess it involves money, which the chairman has mentioned. But I think that there is a need to look to enforcement because there are many cases like that where they just do not file.

Mr. Doyle. I fully agree with that, Congressman. We need to do a better job at every level of government. I think the States can help us a great deal in that effort. I think increased enforcement opportunities would be one significant benefit that would flow from moving more program management responsibility to the States, but we have a number of issues, including the cost issues, that we will have to address in order to get from here to there.

Mr. Pallone. You said next in your statement that there is an opportunity for a public hearing, but that is rarely needed.

One of the concerns I have, which I started to mention before, is that in my area, in particular, a lot of people complain that the Corps' public participation process is limited. If you could just briefly tell me, what are the public participation programs currently in place, how can they be expanded, and would you encourage additional public participation opportunities?

Now, I don't know if that public perception is because of lack of information or because of the procedure itself, but I know it is a problem, and I just wanted you to comment on it.

Mr. Doyle. Our general procedure with respect to individual permit applications involves receiving the application, assuring its completeness, and then attempting to notify the public to solicit views with respect to whether or not that permit should be issued, and if so, in what fashion. I have not been convinced yet that the procedures we are following need to be changed, but I am certainly open to examples of where those procedures seem to be inadequate.

Mr. Pallone. You did mention, though, that there really have not been that many public hearings. Is that because they are not requested, or is it because a determination is made that it is not necessary?

Mr. Doyle. Usually it is because they are not requested. In some cases, they are requested and the district engineer who is the principal decisionmaker for purposes of the regulatory program weighs all of the information that he gets in connection with the public notice and decides that a hearing is not necessary.

But, far and away, the major reason that a hearing is not held is that no hearing is requested.

Mr. Pallone. You went on to mention that the Corps has encouraged greater use of generic regulatory measures as opposed to case-by-case review, and the first one that you mentioned was the advance identification of areas that may or may not be suitable for section 404 discharges.

The problem I have with encouraging the greater use of these generic regulatory measures, particularly the advance identification, is that it seems to me to be counterproductive in terms of wetlands protection. In other words, once an advance identification of a wetlands area is made—i.e., that it is suitable for development—even though no application has been made for development in that area, it is you have characterized the areas as such and that that encourages developers. Who they will rush in and seek to develop the property.

That apparently is happening, and for that reason I have a problem with your encouraging that type of generic measure. I just wanted you to comment on that.

Mr. Doyle. The purpose of advance identification measures in the Corps of Engineers' certainly is to draw development to wetlands. It is to do exactly the opposite.

Mr. Pallone. But doesn't in fact that happen once the advance identification is made and the developers know that this area is suitable?

Mr. Doyle. I hope not, at least in terms of the question that you asked, which was to draw them to wetlands for development and the idea is to draw them away from wetlands for development, to pre-identify wetlands so that it is clear from the beginning that it is unlikely that a decision would be reached to grant a permit because the wetland is so important. We make these determinations, in advance working with the State, the local government, and EPA in the hopes of encouraging development away from wetlands, not towards them.

Mr. Pallone. Well, one of the things that was mentioned as to enforcement is lack of funds. Obviously, we need as much money as possible. We need to save as much money as possible.

I understand that this advance identification system, basically, has been using funds in two ways: One, to identify certain areas; and, secondly, to rate wetlands based on this generic formula. In many cases wetland areas have not been mapped at all for identification purposes.

I was thinking that one way that you could save money is to use it strictly for identification and mapping and not so much to rate areas because of my fear that when you rate them, you get this advance identification designation that therefore encourages development. Would you support using more of the money for identification and mapping as opposed to rating? What is your opinion on that as a cost-saving device?

Mr. Doyle. I would have to take a look at it. I don't know what the split of money is for the two activities that you have identified. Instinctively, and without looking at it, and reserving the right to change what I say, I would like to answer no. I would not support diverting money away from identifying wetland values. We need to be able to do that much better than we currently do, as Bill Reilly mentioned and, I think, as witnesses that will follow also will mention.

Mr. Pallone. I don't mean to interrupt you, but what I am saying is that I would like to see money spent on identification in the sense of mapping so that we know where these areas are. What I don't want to see is money spent on a rating system that, basically identifies those areas that in effect are suitable for development.

I would rather that the money was not wasted, as I use the term, on rating but instead used to map wetlands and generally show us where they are.

Mr. Doyle. Clearly, we need to complete the mapping effort that is about half completed, as I understand it, in the Department of the Interior. But if we as a Nation are ever to be able to pursue a no-net-loss policy, we have got to be able to understand what that means across the entire spectrum of wetlands' functions and values. There are low-value wetlands, high-value wetlands, and we have to be able to differentiate one from the other, or we are going to find ourselves making some very bad national decisions.

Mr. **Pallone**. Mr. Doyle, this is just kind of an overall image, I suppose, or philosophical discussion, in a sense. But one of the problems a lot of residents tell me in my district is that they feel in dealing with the permitting process or the existing Federal structure, the burden of proof as to whether wetlands are going to be destroyed or whether wetlands are going to be negatively impacted by a particular project is on the environmentalists or the citizens, if you will, as opposed to the developer. The feeling is that the burden of proof really should be on the developer as to whether or not a project has a negative impact on wetlands, and I just wanted you to comment. Where is that burden of proof right now, in your opinion?

Mr. **Doyle**. The burden of proof is on the developer by virtue of the fundamental requirement, we have in the regulatory program to follow EPA's 404(b)(1) guidelines, which call for, among other things, selection of an alternative which is the least environmentally damaging practicable alternative, which places a burden on the developer to demonstrate that fact.

Mr. **Pallone**. I just wanted to ask the same question I asked before of Mr. Davis. Why would you—I guess it is a little difficult because, after all, you are with the Army Corps, but would you oppose, and why would you oppose, transferring jurisdiction over the permitting process and over wetlands protection exclusively to the EPA? In other words, just phase out the Army Corps. What would be the disadvantage of that?

Mr. **Doyle**. Well, first of all, for all sorts of reasons, some of them having to do with my current position, most of them not—

Mr. **Pallone**. Well, other than that.

Mr. **Doyle** [continuing]. I would totally oppose phasing out the Corps of Engineers in any respect. Dave Davis gave an excellent answer, and I think that this committee and the Congress need to consider it. Remember that the current regulatory program only covers about 20 percent of the activities that may be causing wetlands damages in the country. If you view the program solely in terms of protecting environmental values, then you are driven inevitably to a decision to give the entire program to EPA to run because it is a single-purpose agency. Their function is said just about as well as it can be said in the title of the agency. They are an environmental protection agency. On the other hand, if you believe, that the regulatory program needs to operate in a fashion which takes into consideration environmental values and other legitimate national values, then it seems to me you are driven in the direction of having the Corps of Engineers or another agency that is not a single-purpose agency implementing the program.

Mr. **Pallone**. Thank you. I appreciate your answers to the questions. Thank you, Mr. Chairman.

Mr. **Nowak**. Mr. Doyle, thank you very much. We appreciate your knowledgeable testimony, and we will be back to you with some other questions that we have, and we appreciate your appearance once again before this committee and your help.

Mr. **Doyle**. Mr. Chairman, thank you. It is a pleasure to be here.

Mr. **Nowak**. Thank you.

[Mr. Doyle's prepared statement follows:]

DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY OF THE ARMY (CIVIL WORKS)
COMPLETE STATEMENT OF
JOHN S. DOYLE, JR.
BEFORE THE
WATER RESOURCES SUBCOMMITTEE
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION

Mr. Chairman and members of the Subcommittee, I am John S. Doyle, Jr., the Principal Deputy Assistant Secretary of the Army (Civil Works).

I am pleased to be here this morning on behalf of the Secretary of the Army to discuss the wetlands activities of the Army Corps of Engineers. As you requested in your letter of invitation, I will address the Corps regulatory program, including recent agreements with the Environmental Protection Agency (EPA) and other Federal agencies, the Corps planning and construction activities as they relate to wetlands, the role of the Corps new Office of Environmental Policy, and the recommendations of the National Wetlands Policy Forum.

As you know, protecting and wisely managing our Nation's remaining wetlands has jumped to the forefront of the Nation's environmental conscience. In this respect, we wholeheartedly support the President's initiative to strengthen existing Federal programs and regulations that protect, maintain, and restore wetlands. We look forward to participating fully in his proposed inter-agency task force for developing and implementing the initiative.

We at Army have learned very clearly that wetlands and their associated values are critically important to water quality and provide a vital base for many of our sport and commercial fisheries, wildlife populations, recreational, cultural, and aesthetic amenities. Wetlands also serve a valuable role in storing flood waters, recharging groundwater, and providing other beneficial hydrologic functions. The recognition of the importance of wetlands is not new to the Corps. A list of wetland values and a policy discouraging unnecessary alterations of wetlands first appeared in our regulations in May of 1973. However, permit decisions dating back to the early 1960's reflected a growing concern for wetlands.

Most of us here today feel strongly that something must be done to both minimize and to turn back the clock on wetland losses. Choosing between wetland preservation and allowing a farmer to drain cropland or to allow a community to construct a flood control levee to protect life and property or a water supply reservoir are not easy choices. We fully recognize that implicit in any wetlands goal is the need to strike a proper balance among the many competing interests for the use and protection of these important resources. It is often very difficult to make a choice between wetlands and other essential public interest factors such as property rights, energy, agriculture, transportation, public health and safety, food, fiber and forest products, housing, recreation, mineral development, communications, flood control, water supply, and navigation.

Our experience in the Corps illustrates this point. During the energy difficulties of the seventies, priority was assigned to permit applications for energy development. As interest in wetlands protection continues to rise, the program adds emphasis to avoiding wetlands impacts where possible and reducing or compensating for those losses that cannot be avoided. This Administration has signaled a heightened interest in stemming wetland losses, and, I assure you, we will respond to that signal.

Permit Program

Perhaps the single most talked about wetlands program of the Corps of Engineers is its regulatory program. The Corps regulatory program has become a very important factor in the conservation of both our Nation's coastal and interior wetlands. However, most wetlands losses (the Office of Technology Assessment estimated over 80 percent) are occurring through activities not regulated by the 404 program. Wetlands can be destroyed or degraded by draining, clearing, mowing or shading, and these activities are beyond the reach of the 404 program unless they result in the discharge of dredged or fill material. By far, most wetland losses result from clearing and draining.

The Corps of Engineers has been regulating activities in the Nation's waters since 1890. Until the 1960's, the primary purpose of the Corps regulatory program was to protect navigation. Since that time, the program has been broadened by Administration initiatives, legislation, and court decisions so that it now considers a full range of public interest factors for both the protection and utilization of water resources.

The Corps regulatory authorities affecting wetlands include:

- Section 10 of the Rivers and Harbors Act of 1899, which prohibits the obstruction or alteration of navigable waters of the United States without a permit from the Corps of Engineers; and
- Section 404 of the Federal Water Pollution Control Act, which prohibits the discharge of dredged or fill material into waters of the United States without a permit from the Corps of Engineers.

About 40 percent of the permit applications submitted to the Corps each year require authorization only under Section 10; 30 percent involve both Section 10 and Section 404; and 30 percent involve only Section 404.

The Corps annually receives about 15,000 standard permit applications. Applications are evaluated in a public interest balancing process; that is, the anticipated benefits of the proposed project are balanced against the reasonably foreseeable detrimental impacts. In addition to this public interest review, Section 404 applications also are evaluated to ensure compliance with the Section 404 (b) (1) Guidelines which are environmental criteria published by EPA. The Guidelines require the consideration of practicable alternatives and mitigation. Corps permits are issued only when the work involved complies with the 404 (b) (1) Guidelines and, on balance, is not contrary to the public interest. The District Engineer's decision to issue or deny a permit normally represents final agency action.

Nationwide General Permits

An individual permit is not always required. Some activities are covered under nationwide permits. Nationwide permits are issued to allow certain activities to occur with little, if any, delay or paperwork. They authorize activities that are substantially similar in nature and cause only minimal individual and cumulative environmental impacts. The permits result in avoiding unnecessary duplication of the regulatory control exercised by another agency and cause only minimal individual and cumulative environmental impacts.

Letters of Permission

Alternatively, a Letter of Permission may be used when the work is considered minor, does not have significant individual or cumulative impacts on environmental values, and should encounter no appreciable opposition. In such situations, the project is coordinated, generally by telephone, with all concerned Federal and State fish and wildlife agencies and adjacent property owners.

State or Regional General Permits

Another form of authorization is the State or regional general permit. These general permits are used to authorize a specific activity or activities usually within a limited geographic area such as a county, watershed or state. The activity or activities covered by the state or regional general permits are substantially similar in nature and cause only minimal individual and cumulative environmental impacts. Only a few general permits allow discharges into wetlands and most of these discharges are also regulated by other agencies. A primary purpose for the use of the general permit is to avoid unnecessary duplication of the regulatory control exercised by another Federal, state or local agency. In many cases, activities covered by this authorization may proceed without further review by the Corps. We have found general permits to be a very effective tool for regulating water resources activities.

Annual Program

Of the 15,000 applications received annually, the Corps issues or denies 11,000 permits and the remaining 4,000 applications are either canceled by the Corps, withdrawn by the applicant or qualify for a general permit. The Corps also investigates approximately 6,000 reported violations of the Clean Water Act each year and makes about 25,000 jurisdictional determinations. With this volume of work, the Corps backlog of pending applications has increased in recent years, particularly in the last two.

The Corps regulatory program employs approximately 900 people, located in over 160 cities. Of these people, about 600 evaluate permit applications, 150 are involved with enforcement activities, and 150 provide clerical support. In addition, other Corps functional elements such as the Offices of Counsel and Environmental Resources Branches provide support to the Regulatory Program on a recurring, as needed, basis. The Corps annual regulatory expenditures have ranged between $50 and $58 million for the past 5 years. The Corps expects to spend about $60 million in FY 1989. The President's FY 1990 Budget request is $69.4 million for regulatory activities.

Permit Process

The Corps permit process usually begins when an application is received. It is first reviewed for completeness. A public notice is then issued within 15 days of receipt of a complete application. The public notice is sent to all interested parties including local, state and Federal agencies. The comment period is usually 30 days. There is an opportunity for a public hearing, but is rarely needed. The applicant is given the opportunity to respond to all substantive comments. After receiving all comments and necessary information, the district engineer weighs the positive impacts against the negative impacts and then makes the final decision. In about half of all individual cases, this process takes less than 60 days. However, the process can become controversial and complicated and, in such cases, this process can easily take more than a year.

Tho regulatory program is labor intensive because permit decisions and enforcement cannot be "contracted out" to the private sector. In addition, as the program has matured, the laws, judicial decisions, and procedures that affect regulatory decisions have increased in both number and complexity. This makes it essential to develop and pursue policies that will reduce duplication and unnecessary paperwork. We are continuing to strive to improve the efficiency of the Corps permit decision process. Delay is the number one criticism leveled against the regulatory program. Applicants are not always due a favorable decision from their government, but they are due a timely one.

Army's Role

The Secretary of the Army's authority to issue and deny permits has been delegated to the District Engineer. The Secretary has, however, retained the ability to elevate cases to a higher organizational level in cases where there are questions of policy or authority. Furthermore, in accordance with interagency Memoranda of Agreements (MOAs) under Section 404 of the Clean Water Act, the Assistant Administrator of EPA or the Assistant Secretary of the Department of the Interior (DOI) or Commerce (DOC) may request that the Assistant Secretary of the Army for Civil Works (ASA(CW)) elevate a permit case. The ASA(CW) must then decide if the case should be elevated and, if so, to what level. Under the terms of the MOAs the permit decision will be made by the District Engineer in the vast majority of the cases, but may be elevated for issues requiring national policy level review, insufficient interagency coordination, significant new information, and for EPA an additional criteria for failure to resolve issues under the 404 (b) (1) Guidelines. Recently two cases were elevated to the Headquarters of the Army Corps of Engineers in order to resolve national policy issues. One of policy issues centered on the practicable alternatives and mitigation provisions of the 404 (b) (1) Guidelines and the other concerned permit actions in designated superfund sites.

Improving Predictability in the Regulatory Program

The Corps has encouraged greater use of generic regulatory measures as opposed to case-by-case review. Such measures include:

- Advance identification of areas that may or may not be suitable for Section 404 discharges;
- Formulation of special area management plans that go beyond advance identifications by providing definitive regulatory allowances and prohibitions;
- Increased use of general permits issued to the public at large. If the terms and conditions of the general permit are met, no formal individual permit application is necessary.; and
- EPA 404 (c) discharge prohibitions applied to an area in advance of any application.

Rainwater Basin Study

An excellent example of being more upfront with regulatory actions is the Rainwater Basin Study being conducted by the Corps Omaha District in conjunction with EPA Region VII. The wetlands in Nebraska's Rainwater Basin are a critical resource to the Central Flyway for migratory waterfowl. They have been severely affected in the past by dredge and fill activities associated with agricultural conversion of wetlands. The study is expected to be completed this summer and will identify those wetlands which are important or critical to the Flyway. When the report is final, we will be in a better position to identify wetlands of critical importance to waterfowl.

Water Resources Development Projects

Construction and maintenance of Corps water resources projects also involve important wetland considerations. Each of these projects is designed, constructed, and managed in accordance with the project purposes authorized by the Congress. Congressional authorizations are normally based upon Corps studies which are performed pursuant to Congressional study authorizations. Other smaller projects may be built under delegated authorities which allow the Corps to pursue individual projects without specific project authorization. However, the construction of these projects must comply 404 (b) (1) Guidelines and other policies and laws applied to projects which are specifically authorized by Congress.

Wetland resources and other environmental concerns are addressed in both the planning and construction phases of our projects . Wetlands considerations are not new to the Corps, since by its nature, the Water Resources program requires work in and around the Nation's waters. Its activities can result in both direct and incidental changes in an area's wetlands. These changes can be either beneficial or detrimental to wetlands values. Historically, many Corps projects have had adverse impacts on wetlands in the interest of achieving other goods and services valued by our society. These include flood damage reduction, navigation, water supply, hydroelectric power, and recreation. Our policy has been, and continues to be, to consider the many, and often changing, local, regional, and national values and priorities during the planning, design, and construction of water resources projects to formulate the best possible projects for the limited Federal dollars. Of course, times and priorities change, and even though we cannot turn back the clock on our completed projects we can consider operational management strategies to accomodate changing priorities and values toward wetlands.

Principles and Guidelines

Corps of Engineers project planning as well as that of other Federal water resources development agencies, is guided by the Principles and Guidelines established during the Reagan Administration pursuant to the Water Resources Planning Act of 1965 (P.L. 89-80). The Principles and Guidelines, commonly referred to as the P&G, specify that the Federal objective of water and related land resources planning is "to contribute to national economic development consistent with protecting the Nation's environment, pursuant to national environmental statutes, and applicable executive orders and other Federal planning requirements."

The planning process under the P&G requires consideration of the full range of alternative plans, and mitigation of the adverse environmental effects attributed to each alternative plan is integral to the planning process.

The Corps planning process leading to the authorization of a Federal project is conducted in two phases. The first phase is a full Federally funded reconnaissance study. This is followed, if appropriate, with a cost-shared feasibility study.

Reconnaissance Study

The reconnaissance study phase has four primary tasks to perform;

- The definition of problems and opportunities, and identification of potential solutions;
- A determination whether the planning should proceed further into a feasibility phase, based on the preliminary appraisal of the Federal interest, cost, benefits, and environmental impacts of the identified potential solutions;
- An estimate of time and cost for the feasibility phase; and

- An assessment of the level of interest and support of non-Federal interest in the identified potential solutions.

From an environmental point of view, our goal during the reconnaissance study phase is to identify environmental problems and opportunities that would be appropriate for including in the feasibility study, and to identify wetlands or other environmentally sensitive areas that would likely be affected by any of the plans being considered.

We also attempt to identify any potential adverse impacts that could require mitigation and the likely array of potential mitigation measures that appear appropriate for further investigations during the cost-shared feasibility study phase of planning.

Feasibility Study

Unlike the reconnaissance stage of planning, the feasibility stage requires field surveys and well-defined studies and considerable analysis. It also requires formal coordination and consultation with Federal and State agencies in compliance with the National Environmental Policy Act (NEPA), the Fish and Wildlife Coordination Act and other applicable statutes.

Required environmental studies during the Feasibility Study are designed to provide engineering, economic, environmental and other information needed for decision-making about alternative plans in light of the competing social values affected by the alternative plans. This requires timely and effective coordination and communication among study team members, Federal and State agencies, and the general public. Information on the engineering, economic and environmental aspects of each alternative plan being considered is included in the feasibility report to insure that decision-makers are fully informed. The goal of the feasibility study is to identify the most cost-beneficial response to an identified water resources problem or development opportunity that also is compatible with environmental values and acceptable to the project sponsor and the Federal Government. From an environmental perspective, compliance with the NEPA, Clean Water Act, and other applicable Federal and State laws and regulations is essential. The goal is to assure that environmental concerns, including the preservation and protection of wetlands, are thoroughly integrated into the planning process and that water resources development plans are recommended upon full consideration of these concerns.

Mitigation

Whenever a plan has adverse environmental impacts that cannot be otherwise avoided, developing an effective and efficient mitigation plan becomes a necessary element of a complete plan since protecting the Nation's environment, which includes wetlands, is inherent in the Federal objective under P&G. Moreover, Section 906(d) of the Water Resources Development Act of 1986 (WRDA 86), requires that reports submitted to Congress in support of authorization contain either:

- a determination that such projects will have negligible adverse impacts on Fish and Wildlife; or,
- a recommendation with a specific plan to mitigate fish and wildlife losses created by such projects.

This section also directs that all losses to bottomland hardwood forests be mitigated in kind. We have fully implemented this provision and have developed specific mitigation plans for 16 projects supported by the Administration since that time.

Planning a Flood Control Project

Let me give you a simple example how we would consider wetlands during the planning of a hypothetical, but typical water resources project. My so called "typical" project will be a urban flooding problem. Once funds are approved to initiate the reconnaissance study, a multidisciplinary study team is formed comprised of engineers, planners, biologists, economists, and other required disciplines. The team leader assigns tasks and is responsible for the day to day management of the study. However, each member of the team is responsible for providing information necessary to cleary identify problems and opportunities to be addressed during the study, identify potential alternative solutions, determine likely impacts of these solutions, determine if there is a Federal interest, and identify a non-Federal cost sharing partner.

Resource Inventory

From an environmental standpoint, one of the first tasks to be performed would be to contact Federal and state resources agencies, advise them of the study location and objectives. A meeting will be scheduled with them to discuss what needs to be done to identify important resources in the area that could be impacted by the proposed flood control project and to discuss studies that need to be conducted during the feasibility study phase to ensure that losses are properly mitigated and opportunities for environmental enhancement are identified.

Let's focus on wetlands in this example and assume that our coordination with the agencies, and our own knowledge of the area, identifies a series of wetlands that would be affected by normal engineering solutions that address flood control. We would attempt to determine the relative value of these wetland areas. This information is used by the study team to see what can be done to avoid or minimize adverse impacts to these wetland areas and to determine if unavoidable impacts would likely result that would require compensation. We also would identify opportunities to enhance wetland areas associated with this project, but this is about as far as we go during the reconnaissance stage of planning.

Resource Impacts

Let us now assume that this study moved into a cost-shared feasibility phase. Coordination would continue with the other agencies and the general public concerning the wetlands and, if necessary, to evaluate alternatives to mitigate adverse effects. Detailed studies would be conducted to quantify losses and to develop cost-effective plans. Let's say that through engineering design practices we are able to avoid many, but not all, of the impacts to wetlands and compensation for the remaining losses is required. Again, in close coordination with other resource agencies we would identify a range of alternatives to replace wetland values lost as a result of the project. This would include identifying opportunities to restore degraded wetlands in the area, and to create new ones as appropriate. A wide range of wetlands mitigation measures would be considered in order to develop the most cost-effective, reliable and acceptable wetlands mitigation plan. The cost of the mitigation plan is factored into the economic analysis for the overall project; therefore, beyond our interest to protect wetlands for their environmental and social values, there also is a strong economic incentive to avoid and minimize adverse impacts to wetland resources.

Louisiana Coastal Wetlands Study

While I have focused thus far on the planning process in general, I want to mention one on-going effort about which all of us in the Corps are excited - the Louisiana Comprehensive Coastal Wetlands Study for which the Corps has the lead role. That study deals with an area of the Nation that contains 40 percent of our coastal wetland area, but is experiencing 80 percent of the coastal wetland loss, some 35-40 square miles per year. The purpose of the study is to develop a comprehensive plan to address coastal land loss by bringing together the numerous Federal, state and local agency plans and proposals under one umbrella study. Study participants include the U. S. Environmental Protection Agency, the U. S. Fish and Wildlife Service, the U. S. Geological Survey, the U. S. Minerals Management Service, the U. S. National Marine Fisheries Service, the U. S. Soil Conservation Service and the State of Louisiana Departments of Environmental Quality, Natural Resources, Transportation and Development, and Wildlife and Fisheries. The study will determine the most cost effective plan for combating the loss of coastal wetlands. Each agency would then proceed through its normal authorization processes for those elements of the plan in their area of responsibility. The reconnaissance phase is underway, and we expect the reconnaissance report to reach our office this summer. I believe, from this discussion, that you can understand how wetland concerns can be factored into timely and effective decision - making.

Recent Initiatives

Recent changes in the project development process should help assure that environmental values are fully considered. First we are streamlining this process to reduce the time it takes to plan, design and construct projects. This will help assure that projects reflect current environmental values and concerns. We also are instituting earlier Washington level involvement in the planning process to assure that all issues are resolved before a recommendation on a project is sent forward. A new system of project management also will provide a single point of contact for environmental concerns and help assure continuity as a project moves from conception to construction. Moreover, it will assure that environmental commitments during the planning phase are recognized and implemented as the projects move into construction.

Effects of Project Cost Sharing

It is fully expected that the policy reforms of WRDA 86 will yield more economically efficient and environmentally sensitive projects. The results to date look very encouraging. Because non-Federal sponsors must pay a portion of project costs, project designs have more closely matched to the production of early benefits, projects have been reduced in scale or are being phased in over longer periods of time. The result is not only economic efficiency, but also reduced environmental impacts, including reduced wetland impacts. For this reason, private environmental groups were key supporters of the comprise which yielded WRDA 86 and have continued to support its reforms.

Cost sharing also will result in fewer projects being advanced for authorization as local sponsor willingness to pay will act as a selection constraint. Reduction of the total number of projects authorized for construction should also reduce the cumulative environmental impact caused by all projects that do proceed to construction. WRDA 86 specifically deauthorized some 300 projects, and provided for periodic reporting of others eligible for deauthorization. The first such report identified 363 projects so eligible.

Project Downsizing

Cost sharing will result in smaller projects as local sponsors request downsized project features to accommodate available budgets or choose to phase project construction in order that the initial benefit stream may be evaluated prior to committing additional resources. It is anticipated that smaller projects will result in reduced environmental impacts as they will tend to consume less land, generate reduced volumes of dredge material, fewer structural relocations, etc.

While the data on cost-shared projects regarding explicit environmental benefits is neither complete nor conclusive, based on an analysis of cost-shared new starts it appears that sponsors have tended to recommend phasing of deep draft navigation projects with reduced dredge depth or, in specific cases reduced channel width. At Baltimore Harbor, for example, the originally authorized project called for deepening the existing channel to 50 feet and widening it to 1,000 feet. The scheduled project now has the same 50 foot channel but a reduced channel width of about 800 feet. Phasing of deep draft navigation projects will probably result in reduced net environmental impact as dredge material volumes are accordingly reduced. This reduction will have the greatest impact for those projects that must dispose of dredged material in contained sites as the opportunity cost of site replacement imposes both additional construction and environmental costs.

The data on phased or downsized flood control projects is insufficient to project the magnitude of environmental impact decrements associated with reduced project size, but there exists some evidence that reducing reservoir storage capacity and careful routing of diversion channels has led to decreases in required mitigation measures. At Little

Dell Lake, Utah, the authorized project called for construction of a dam 253 feet high, creating a lake with a storage capacity of 30,000 acre-feet. As constructed, the dam will now be 226 feet high creating a smaller sized lake with 20,500 acre-feet of storage capacity. The reduction in associated riparian habitat losses is obvious.

The participation of local sponsors in the design process will assure that environmental concerns are fully addressed and carefully evaluated. Because sponsor consent must be achieved before a Local Cooperation Agreement can be achieved, and ultimately a project completed, local environmental perspectives will be afforded the full attention of the Federal partner. Projects, or project features, that are perceived to represent unacceptable environmental risks either will be eliminated from the selection process or modified to reduce the environmental impact to a level that allows for sponsor/community support of the project.

I will next address several topics that are particularly relevant to wetlands:

Maintenance of Navigation Projects

In the case of projects operated and maintained by the Federal Government, planning continues after construction. Because continuing maintenance responsibilities for our navigation projects frequently involve wetlands, there is a continuing evolution of the management of dredged material in response to changing values, scientific information, and technology. The Federal navigation system presently includes over 25,000 miles of Congressionally-authorized navigation channels serving 400 major U.S. ports and 41 of the 50 states. Dredging and attendant management of these dredged sediments is a vital requirement in maintaining and improving this system. Due to the critical importance of this Federal navigation system to the nation's economic well-being and national defense, it is most often not a question of whether dredging will occur, but rather one of finding a location to place the dredged sediments that accomodates both economic and environmental considerations.

At present we must dredge approximately 300 million cubic yards (mcy) of sediments annually to maintain the Federal navigation system to necessary water depths. The new work authorized in WRDA 86 and Navy Homeporting will significantly increase the volume during the next 3 to 5 years. Finally, it is estimated that an additional 100-150 mcy of sediments will be dredged each year pursuant to permits issued by the Corps.

Beneficial Uses of Dredged Material

For some time now, the management of dredged material has been the number one problem in the management of our national dredging program. There are no simple solutions to this problem and the most appropriate management plan must be developed on a project-by-project basis. Since the mid-1970's, the Corps and EPA have, through the 404(b)(1) Guidelines, categorized wetlands as special aquatic sites. Wetlands are a last alternative for the placement of dredged sediments from Federal dredging projects. We will continue development of the concept that dredged material may be a potentially valuable resource rather than a waste.

To date, the Corps, in conjunction with its navigation program, has participated in over 140 separate projects in 27 states involving wetlands protection or restoration using dredged material. The total amount of wetlands benefiting from these projects exceeds 13,000 acres.

Pointe Mouillee, MI

An excellent example of the beneficial use of dredged material is the Pointe Mouillee project in Michigan on the western shore of Lake Erie. This facility was built to serve as a disposal site for dredged material and to protect and restore a 4,600 acre state wildlife management area. It was one of the first large-scale projects to combine the goal of cost effective placement of dredged material with natural resource development and management.

Weaver Bottoms, MN

Weaver Bottoms, a part of the Upper Mississippi River National Wildlife Refuge Complex near Winona, MN, serves as another example of the beneficial uses of dredged material. Weaver Bottoms is a several thousand-acre wetland which is a migratory stopover for swans, geese and ducks using the Mississippi Flyway. It was restored with dredged sediments from the Mississippi River project. At this site eroded portions of the bottoms were plugged and nesting islands were created with dredged material. As a result, erosive action was slowed; sedimentation occurred; and an emergent wetland was reestablished.

Wetlands Creation

We have some concrete examples of this concept, again in the coastal reaches of Louisiana. We have used dredged material to create new wetlands along the Mississippi River and other streams. Over 3000 acres of productive marshland have been created by disposing of dredged material in shallow open water areas. We will continue to use that process whenever the opportunity presents itself.

Upper Mississippi Management Program

A specific regional environmental program that addresses, among other things, wetlands protection, conservation, restoration, and creation needs and opportunities is the Upper Mississippi River System Environmental Management Program (UMRS-EMP). This program is intended to ensure the coordinated use and the environmentally sustainable development of the Upper Mississippi River System (UMRS), in recognition of the river's many functions and values to man. The UMRS includes the navigable portions of the upper Mississippi River and Illinois Waterway.

The most pervasive environmental problem on the UMRS is the sedimentation of backwaters and side channels. The formation of the navigation pools in the 1930's created thousands of acres of marsh, wetlands, and lake-like conditions, but the dams also acted as sediment traps. These valuable natural resource areas are silting in, losing some of their habitat value. All of the projects presently in the UMRS-EMP address this problem in one way or another.

Habitat Improvement

Most of the projects are a combination of three basic types of habitat creation or restoration:

1. Dredging and flow control structures to restore side channel and backwater areas affected by accelerated sedimentation;
2. Levees and facilities to control water levels to provide feeding areas for migrating waterfowl; and
3. Island creation to reduce shoreline erosion and turbidity caused by wind driven waves.

At present, we have two completed habitat projects at Island 42, MN, and at Monkey Chute, MO. We have scheduled the completion of three additional projects in FY 1989 at Blackhawk Park, WI; Guttenberg Waterfowl Ponds, IA; and Clarksville Refuge, MO. We are scheduled to complete general design on twelve additional projects in 1989. The President's FY1990 budget request would provide funding to complete a total of six projects and initiate construction on seventeen projects by the end of FY 1990.

The UMRS-EMP is progressing with close coordination among the Upper Mississippi River Basin Association, the five affected states and the Fish and Wildlife Service. The development of the program and its progress to date are testimony to the growing willingness of the resource management agencies to work together. We believe that the EMP could be a prototype for future efforts around the Nation.

Freshwater Diversions

There are several other projects affecting wetlands that I would like to describe briefly. The Corps of Engineers and the States of Louisiana and Mississippi are working to restore a small portion of the marsh flooding cycle in a way compatible with flood protection. Three freshwater diversion projects to control saltwater intrusion are planned for implementation in the Louisiana coastal area.

Construction of the Caernarvon Diversion Structure, 15 miles south of New Orleans, began last June. It will provide a large volume of fresh water to the Breton Sound marshes. As a result, 16,000 acres of marsh will be preserved over the next 50 years. Construction is scheduled for completion in November 1990.

The Davis Pond Diversion Structure on the west bank of the Mississippi River and the Bonnet Carre' Diversion Structure on the east bank, both a little north of New Orleans, would preserve 83,000 acres and 11,000 acres of marsh and wooded wetlands, respectively. Both of these projects are in the preconstruction engineering and design stage.

Wetlands R&D

In addition to its project specific activities, the Corps is conducting a general wetlands research and development program. This program is carried out at the Waterways Experiment Station in Vicksburg, Mississippi. Wetlands related R&D was initiated over fifteen years ago under the Dredged Material Research Program. This work has led to a number of manuals and reports on marsh creation and the effects of marsh disposal of dredged material. During the period of 1978-1982, research was conducted to determine the physical limits of wetlands, primarily in response to Section 404 of the Clean Water Act. Demonstration wetlands were constructed and evaluated in a number of locations around the country. From 1981 to present, the Corps has been carrying out wetlands studies under the Wetlands Research Program. This program was established to help district offices respond to the Section 404 requirements and to mandates of Executive Order 11990 addressing the protection of wetlands. Results of the Wetlands Research Program have provided the information necessary to develop the Corps Wetlands Evaluation Technique and the its Wetlands Delineation Manual.

Interagency Accomplishments

In the past few months, we have reached agreements on three important aspects of the regulatory program relative to wetlands.

Wetlands Delineation Manual

The first major success story and the one that set the stage for the other 2 agreements is the development of a joint Federal manual for identifying and delineating wetlands. Four federal agencies are primarily involved in delineating wetlands: the Army Corps of Engineers for its regulatory, civil works construction, operation, and maintenance programs; EPA for the Section 404 and Section 402 programs; the Soil Conservation Service for its Swampbuster program, and the USFWS for its inventory and acquisition programs. After more than a decade of independent use of different methods for delineating wetlands, the four agencies convened in the summer of 1988. The objective was to establish a common method for determining the geographical extent of Section 404 wetlands and, if possible, establish a method that all four agencies could adopt for all programs.

On January 10 of this year the four agencies reached agreement and adopted a joint manual that they will use to identify wetlands. The Army and the EPA began using the new manual in the 404 program on March 20,1989. This manual is the product of many years of practical experience in wetland identification and delineation by the four Federal agencies and represents a major step forward in protecting and managing the Nation's wetlands. I believe that this is a major breakthrough.

The agencies now are developing training and certification programs on use of the manual. We expect many states will also adopt the manual which will enhance the interaction between state and federal wetland programs. As consultants and other agency personnel become certified in use of the manual, we also anticipate some relief from the heavy workload pressures now on the Corps to make jurisdictional determinations.

404 Jurisdictional Boundaries

The second agreement with EPA occurred on January 19, 1989, when we signed an MOA on the determination of geographic jurisdiction and Section 404 (f) exemptions. The MOA provides that the Corps will make all the day to day jurisdictional and exemption determinations based on

EPA guidance and oversight unless EPA designates in advance a special case where it will make the determination.

This new MOA addresses many of the difficulties experienced under the previous agreement that expired several years ago. Both agencies and the public will now have a better definition of responsibilities. The new MOA virtually eliminates the overlap and duplication.

Enforcement MOA

The third agreement we reached with EPA was in the area of enforcement. Effective enforcement is essential to any successful regulatory program. Enforcement under Section 404 of the CWA is divided between the Corps and EPA, with EPA having explicit statutory enforcement authority to deal with unauthorized discharges of dredged or fill material, while the Corps has similar enforcement authority for violations of permit conditions. The Water Quality Act of 1987 gave administrative civil penalty authority to EPA for unpermitted discharges and to the Army for violations of permit conditions. We are presently developing regulations to implement our administrative civil penalty authority.

Following enactment of the 1987 Water Quality Act, the agencies began negotiations on a more effective and efficient method for allocating enforcement responsibilities between the two agencies. We signed an MOA on January 19, 1989, that took effect March 20, 1989. Besides reducing duplication and overlap, the MOA was designed to establish a framework for a more effective enforcement program.

The enforcement MOA establishes the Corps as the agency primarily responsible for initial investigations of reported violations. Once a violation is confirmed, the MOA sets a procedure for the designation of a lead agency to pursue the enforcement action. That designation is based on the best use of agency resources, expertise, and authorities to pursue the enforcement action to an appropriate conclusion. This MOA will provide for a strong enforcement program, within each agency's existing resource limits, and, like the Jurisdiction MOA, will make the best available use of those limited resources.

Section 404 Mitigation

Besides these three accomplishments, I believe that the Army and EPA will soon reach agreement on a joint mitigation policy under the Section 404 (b)(1) Guidelines. This agreement along with the three just mentioned will give us a solid framework to improve administration of the 404 program.

North American Waterfowl Management Plan

We were proud to execute another agreement in January of this year which will advance the conservation and improvement of wetlands managed by the Corps of Engineers. This agreement between the Department of the Interior and the Department of the Army is in support of the North American Waterfowl Management Plan, a joint effort between the United States and Canada to restore waterfowl habitat on the North American continent. In broad terms, the goals of the plan are to ensure habitat for 62 million breeding ducks and a fall flight of more than 100 million birds, to ensure wintering habitat for 6 million geese and 152,000 swans, and to maintain the current diversity of waterfowl species.

The U.S. Fish and Wildlife Service and the Corps are now working together to conserve wetlands on the more than nine million acres of land and water managed by the Corps. These land and water areas include wetlands in navigation and flood control projects, many of which are important waterfowl habitats. Some projects are in waterfowl nesting and wintering areas. Others are in the flyways and provide resting or feeding areas for migrating waterfowl. Under the agreement, the Corps and the Fish and Wildlife Service will cooperate in identifying additional opportunities for wetland management on both existing as well as new projects.

Fisheries Habitat Creation and Restoration

In a similar vein, the Corps has been working with the National Marine Fisheries Service to improve and enhance coastal fisheries habitat, which often includes wetlands. The Administrator of NOAA and the Assistant Secretary of the Army(Civil Works) signed a cooperative agreement in October 1985 for a pilot study to investigate the practicability of a National program for restoring and creating fisheries habitat. This program also could contribute to our wetlands base.

As part of the study, dredged material disposal areas at 3 locations in North Carolina and Texas were modified to create shallow, sloped intertidal areas to increase the production and abundance of important coastal species. While repairing a jetty in California, boulder clusters were placed parallel to the toe of the jetty to reduce turbulence. The boulders replaced the existing sand bottom with a more productive reef environment that should benefit fisheries. We expect to receive final reports on the effectiveness of these projects in the near future.

Office of Environmental Policy

I will now turn to our Office of Environmental Policy. It was established in response to Section 924 of the WRDA of 1986 which directed its establishment within the Directorate of Civil Works, Office of the

Chief of Engineers. Prior to the establishment of this office, environmental policy was effectively developed in each of the respective organizational elements of the Corps responsible for a particular phase of a proposed project, e.g., planning, engineering and design, and operations and maintenance (including regulatory and natural resources). The establishment of the Office of Environmental Policy consolidated the formulation of environmental policy into a single office and provides for consistent application of that policy throughout the Corps organization.

The Office was officially created on December 7, 1987, when we announced its establishment. At that time we determined that the Office's functions would include;

1. Formulation, coordination, and implementation of environmental policy;
2. Monitoring compliance with environmental policies and guide lines; and
3. Identification of environmental initiatives to improve the environmental quality of Corps projects and operations.

Current Activities

Under the current organization within Corps headquarters the Office of Environmental Policy is responsible for numerous environmental activities as they relate to the Corps water resources development program. These duties include the formulation of consistent overall national environmental policy development and the implementation of nearly 50 environmental statutes. The Office also is the primary contact for the Chief of Engineers Environmental Advisory Board (EAB). The EAB provides advice on identifying and resolving environmental issues and preventing potential problems associated with new or expanded Corps missions. It also advises on new directions that the Corps should take in facing new environmental challenges. Two new areas for the Office involve the development and implementation of effective guidance for the increased use of Civil Works environmental expertise in support of military installations and the development and implementation of new environmental mission areas for the Corps.

The National Wetlands Policy Forum

The Forum was established by the Conservation Foundation in1987 at the request of the EPA to address national policy questions concerning the protection and management of wetlands. The Forum consists of 25 members, including 5 ex officio participants with representatives of the environmental community, academia, the private sector, and Federal, state and local governments.

The ASA(CW) was very pleased to serves as one of the ex officio members and participated fully in the Forum deliberations. Great credit should go to the EPA, Conservation Foundation, and to the Forum Chairman, Governor Thomas H. Kean of New Jersey. The Wetlands Forum operated by consensus and used this very outstanding process of inclusion to reach some very difficult public interest decision for wetlands. The centerpiece of the Forum's more than ninety recommendations was the establishment of a national goal of no overall net loss of the nation's remaining wetlands and, over the long term, the increase in the quantity and quality of the nation's wetland resource base.

National Wetlands Goal

President Bush has stated that it is the Administration's objective to protect and preserve our wetlands and to adopt a national goal of "no net loss of wetlands." The President stated that he is committed to the preservation of the Nation's remaining wetlands and that achieving the national goal of no net loss of wetlands will require strengthening existing Federal programs and regulations that protect, maintain, and restore wetlands. The President believes that a coordinated Federal wetlands policy is needed, and that private and public sectors must be brought together at the Sate and local levels to find ways to conserve wetlands.

The President's February 9th Budget plan stated that he will establish an inter-agency wetlands task force under the Domestic Policy Council. The task force will work towards no net loss of wetlands as a national goal. The basic theme of the Presidential initiative is to strengthen existing Federal programs and regulations that protect, maintain and restore wetlands.

As a Presidential initiative, the wetlands inter-agency task force should play a major role in developing and implementing programs that encourage wetlands protection and recovery. The task force should also play a major role in public education that fosters a better understanding of the value of wetlands as a national resource. The Administration is in the process of setting up the wetlands task force, which should be officially established in the very near future. Until the task force has been established and begins its work, the Administration will not be in a position to comment on or support the specific wetlands recommendations made by the National Wetlands Policy Forum.

Mr. Chairman, that concludes my statement. I will be happy to answer any questions that you or members of the Subcommittee might have.

Mr. NOWAK. We will now, as a panel, bring forward the National Wetlands Policy Forum contributors, and for that purpose we want to welcome Brenda Davis, who is Chief of Policy and Planning in the office of Governor Thomas H. Kean of New Jersey; Gail Bingham, who is the vice president of the Conservation Foundation; Mr. Peter A. Berle, who is the president of the National Audubon Society and Fred Worstell, who is the vice president of Melvin Simon and Associates, Incorporated.

We want to welcome you all for the panel. Thank you for your patience this morning, but I think the review we have had was a good overall view of where EPA and the Corps believe they are going based upon the amount of work which each of your organizations has contributed to the National Policy Forum.

We have extensive background on each of you which we will insert in the record along with your prepared statements which have been submitted. You may want to proceed in a summary form, we will have your statements, your total statements, incorporated in the record, and you may proceed as you so desire.

Ms. Davis, would you like to start?

TESTIMONY OF NATIONAL WETLANDS POLICY FORUM: BRENDA DAVIS, CHIEF OF POLICY AND PLANNING, OFFICE OF GOVERNOR THOMAS H. KEAN, OF NEW JERSEY; GAIL BINGHAM, VICE PRESIDENT, THE CONSERVATION FOUNDATION; PETER A.A. BERLE, PRESIDENT, NATIONAL AUDUBON SOCIETY; FRED WORSTELL, VICE PRESIDENT, MELVIN SIMON & ASSOCIATES, INC.

Ms. DAVIS. Certainly. Thank you very much, Mr. Chairman and the ranking member of your committee.

I think that you should be congratulated for your stamina in listening to us all this morning.

As you mentioned, I am Governor Kean's Chief of Policy and Planning, and he has asked me to represent him here this morning. He sends to you his very sincere thanks for holding this hearing to consider the results of our work on the National Wetlands Policy Forum and his regrets at not being able to be here, only because of a longstanding previous engagement.

I am going to try to summarize as quickly as I can some of the main points that he wanted to make before this committee.

The Wetlands Policy Forum was created because the status quo in wetlands protection in the country is, in the view of the Forum and in Governor Kean's view, absolutely unacceptable. The conversion of wetlands reached nearly one-half million acres a year over the past few decades, and all told, we have lost more than half of our original wetlands, some 100 million acres.

These losses, as you know, come at a very high cost. You, Mr. Chairman, mentioned earlier that wetlands provide multiple interrelated benefits to our Nation. Not the least of all, they provide some of the most beautiful and quiet natural places left in America, and I think in today's world that is not a value that we should ignore.

We don't mean to imply that wetlands conversion has not produced some other benefits, or that it has been undertaken for no reason at all. But the protection of our remaining wetlands provides a clear example of one of the great challenges facing policymakers like yourselves today, and that is how can we best meet the twin goals of economic growth and environmental protection.

In New Jersey, this is a dilemma with which we are faced constantly because we are the most densely populated State in the Nation. Governor Kean is a strong believer that economic growth and environmental protection are, far from being exclusive, mutually dependent, and in fact this belief was a major reason for his decision to become the chairman of the Wetlands Forum.

My fellow panelists here today are going to give you some detail on the history and membership of the Forum, but I just wanted to emphasize once again the broad representation that our group had. All major interests, including timber, oil, and development firms, farmers, State, Federal, and local officials and environmentalists and academics were included. It is this broad representation that makes the consensus reached by the Forum truly significant.

In New Jersey, we have worked hard to protect our natural resources, lest we lose those economic resources that are so important to us. In 1970, we passed strong coastal wetlands protection, but we still needed much stronger and more direct tools to protect our freshwater wetlands. We have only 300,000 acres of these left out of our original some 1 million acres.

For us the debate over freshwater wetlands legislation was a long and sometimes bitter one lasting nearly 4 years. Towards the end of that debate, finally, in June of 1987, Governor Kean imposed a moratorium—in fact, that occurred right before the first meeting of the National Forum — he imposed a moratorium on all building in wetlands within the State, and he promised to lift that ban as soon as the Legislature enacted our wetlands bill.

Well, less than 3 weeks later, on July 1, he signed a tough but fair new law regulating development in freshwater wetlands, and we lifted that building ban.

The permitting program under our new law went into effect in July of 1988, and now in New Jersey we believe developers have a much clearer sense of what they must contend with. They have a clear wetlands definition, specific delineation procedures, appeals processes, and mitigation sequencing requirements. We are also having a major wetlands mapping effort under way.

I want to mention just briefly three of the Forum's most critical recommendations to you today:

First, the need for a national goal to guide our wetlands policies; second, the importance of increasing the role of States in wetlands protection; and last, a plea for action by Congress.

The Wetlands Policy Forum concluded, as you know, that our wetlands protection efforts at present are basically uncoordinated and unfocused and, as a result, ineffective. There are big loopholes in our coverage.

To address this, the Forum made what is perhaps its most important single recommendation, that the Nation should adopt a clear and unequivocal goal to guide its wetlands policies. Some of you have described that goal earlier, but immediately we should adopt a policy of no overall net loss and, in the longer term, look to restore and create wetlands to increase the quality and quantity of this resource in our Nation.

Adoption of this goal in national legislation will send a clear signal to our country that loss and degradation of the Nation's wetlands must stop. We believe this wetlands goal provides some flexibility for unavoidable losses.

The second major recommendation I want to mention is that the States, we believe, really should play a much greater role in wetlands protection. I think that our interests here and recommendations here address some of the questions that have been put forward this morning by members of the committee about shared jurisdiction between EPA and the Corps, and certainly, Mr. Chairman, your comments about resources are very important to States.

But States have the detailed local knowledge of their specific wetland types and of the particular characteristics of our economies and geographies that lead to wetlands loss. States could probably provide faster and more predictable decisionmaking.

In many cases, States are already undertaking mapping and assessment programs. We also operate a number of other environmental programs, and these should be operated consistently.

As a first step in this process, the Forum recommended that States should be required to develop comprehensive wetlands conservation plans. In addition, though it is possible to do, as has been pointed out, very few States have applied for delegation of the section 404 program, and lack of assumption means that in most States, two entirely separate programs are in place, forcing the private sector to contend with different procedures and timetables often in conflict.

So, second, the Forum strongly recommended changes to Federal law to encourage delegating of the section 404 permitting program to States.

However, without some changes, many States are not going to seek delegation, and we are going to lose an opportunity to provide a clear and more predictable regulatory pathway.

Very briefly, there are four major obstacles or hurdles which have discouraged States from taking over 404. Current rules prevent us from receiving delegation for all the permits within our borders. We still do not receive permitting delegation for wetlands adjacent to navigable waterways, which would continue to be issued by the Corps. So we recommend that all of these permitting responsibilities be delegated, with the Corps retaining review and approval of permits involving navigation and defense.

Second, as the chairman has pointed out, unlike most other environmental programs, in the delegation procedure for wetlands, no resources are provided to States to assist in preparing for or operating the assumed program. So the Forum recommends that there should be financial and technical assistance for this purpose.

Third, and very importantly, States are not allowed to assume delegation for one portion, one discrete geographic area, of the State, and the Forum recommended that if you allow States to assume discrete and clearly identifiable portions of the regulatory program, rather than requiring that the entire program be delegated at one time, many more States would participate.

And last, the Forum recommended that Federal action should be consistent with the State plans and State-delegated programs, similar to the process under the Coastal Zone Management Act.

The Forum worked long and hard, Mr. Chairman, as you are aware, to reach a consensus on these and other recommendations. We came a lot farther, I think, than many thought was possible when we started out. But it is not enough just to circulate this report, and what you are doing here today is what we really need.

We have been pleased to see the increased attention to wetlands since we released our report. President Bush's remarks were noted earlier, and the Environmental Protection Agency has prepared a wetlands action plan. The National Governors Association adopted a policy proposed by Governor Kean which encompassed many of the Forum's recommendations.

But there is much more to do. Taken together, all of these things provide a good start, but today's hearing is really the most critical step so far in realizing our recommendations. Many of the steps that the Forum recommended require congressional action, and your help and leadership are critical to our success.

We do recognize, however, the complexity of these issues, which are matched probably only by the complexity of congressional jurisdiction over the same issues, and that means that action will take time and statesmanship, but that is all the more reason to begin as soon as possible.

Mr. Chairman, we thank you again for holding these hearings and patiently listening to all of us. We urge you to act on our proposals, and we are ready to help you in any way that we can.

Mr. NOWAK. Thank you very much.

I might just say, although these issues are complex and complicated in a very real way, last year New York and New Jersey got to work together and provided us with a scheme for sludge removal from the ocean, as I understand, and I am interested in seeing how that is working out. This, of course, has a broader applicability in a very real sense to the same environmental kind of damage area.

Let me turn at this time to Mr. Stangeland.

Mr. STANGELAND. I hate to interrupt here, but I have got a high school class waiting for me on the Capitol steps, and I am going to have to ask to be excused.

Ms. Davis, it is our job to sit here, but this is a very important subject and is very interesting. If I sit here yawning, it is because I came back from Madrid Monday morning, and I think jet lag hit me last night, and I just didn't sleep.

But I am pleased that you are here, and I think you have done an excellent job with the Wetlands Policy Forum. Hopefully, using that, the North American Waterfowl Plan, a good educational program, we have some very strong differences coming from different districts and different economic driving forces, but there is no question that we have lost far too many wetlands in the past, and that has got to stop. There is no doubt about that, and there has got to be some way that we can accommodate some of those forces, and an education program—you know, as I said before, I am a farmer. I love to see wildlife, and most farmers love to see that wildlife, whether it be ducks or deer or whatever it is.

We know that the DU program and the types of programs that we are advocating here are good for a lot of non-game wildlife out there that everybody has an opportunity to see. It is not back in a dense forest somewhere where you can never find it, but it is out there in the open.

I think your last comment—and I am sure that the other panelists are going to somewhat follow that kind of vein—says that there are ways we can work this out, and we have got to work it out, really. It is for our future and our posterity's future.

I just apologize for having to leave, and I am waiting for Mr. Packard to come and take my place, but I have this class waiting and have to go.

Thank you, Mr. Chairman.

Mr. NOWAK. You are welcome.

We will wait until we hear the rest of the testimony.

Gail, if you would like to summarize your testimony to some degree, we would be able to get into more questions. As you can tell, Mr. Pallone is very anxious to get in some of the detail of the report in which he is totally consumed.

Ms. BINGHAM. Thank you very much, Mr. Chairman and members of the subcommittee.

I am Gail Bingham, vice president for the Conservation Foundation. As you have heard, the Conservation Foundation convened and facilitated the National Wetlands Policy Forum, and I serve as staff director to the Forum.

Let me begin by expressing my appreciation to the subcommittee for the opportunity to talk with you about the Wetlands Forum.

In my written remarks, I covered three areas: background of the Forum, outline of the recommendations. But in my verbal remarks, I will focus on our plans for implementing those recommendations.

As you have heard, the time is right to move beyond the polarization of the last two decades toward a broader consensus. As has been previously noted, wetlands management has become for all interests involved a major frustration. As a Nation, we no longer view wetlands as wastelands, but our Nation's current wetlands policies are ineffective both in protecting these precious resources and in encouraging compatible uses.

On November 15, 1988, the National Wetlands Policy Forum released its report and recommendations at a standing-room-only press conference in Washington, D.C. The report, entitled, "Protecting America's Wetlands: An Action Agenda," was the product of a year-long consensus-building effort.

The diversity of the membership has been noted and needs only to be underlined. These individuals, representing interests that have often been at odds over wetlands policy, worked hard and faithfully together to reach a consensus on a comprehensive set of recommendations.

The Forum met four times between July 1987 and July 1988, with five additional meetings of the members' staff representatives, to gather input from a larger group of interested organizations and individuals. In May of 1988, the Forum also sponsored public workshops in Washington State, New Jersey, and Louisiana. More than 600 people attended these hearings.

The Conservation Foundation convened the Forum and provided staff support. I would note that our role has been to facilitate the dialogue and to help those involved build a consensus that meets the diverse needs of all interests, rather than to advocate a single point of view.

The Forum's final report includes over 100 recommendations for action by Federal, State, and local governments and the private sector. This scope of the Forum's recommendations reflects the fact that many wetlands losses occur outside the scope of current regulatory programs.

Also, by covering a broad range of issues, the Forum was able to enlist the participation and support of a variety of diverse interests.

The Forum's recommendations are organized as an eight-point plan which you can read in its report.

Currently, the members of the Forum are working actively to encourage the implementation of its recommendations. We recognize that wetlands protection is only one of many issues the Nation is facing, but we believe that it truly merits a higher priority than it has received in the past, and your committee's attention to this is a reflection of that same fact.

Many recommendations can be adopted immediately by Federal and State agencies responsible for implementing the existing protection and management programs. We recommend that they do so and applaud such steps, as you have heard, as the recent agreement on consistent field procedures for defining and delineating wetlands for regulatory purposes. We were pleased to have a role in helping facilitate that agreement.

To assure that the Forum's report does not become just another report on a shelf, its members recommend several specific actions:

First, the President amend and reissue the existing Wetlands Executive Order to emphasize the importance of wetlands protection and to promote the adoption of the Forum's recommendations by all Federal agencies.

Second, Congress should enact legislation that will establish the recommended goal as national policy, encourage delegation of Federal wetlands regulatory programs to qualified States, establish such initiatives as wetlands preservation trusts and an agricultural wetlands reserve program, and require the President to report to Congress every 5 years on the Nation's success in achieving the national wetlands protection goal.

Third, we hope that Congress would provide adequate funding for existing programs and new initiatives alike.

To see this work through, the Forum has established an implementation subcommittee. Members of the subcommittee are engaged in disseminating information to their constituencies and the public about the Forum's recommendations.

They also have formed working groups to discuss specific issues in five areas: Federal legislation, appropriations, the revised Federal executive order, current Federal regulatory programs, and initiatives at the State level. The Forum as a whole will meet again this summer to review progress toward implementation of its recommendations.

Specifically, the implementation subcommittee is working on recommendations for a revised executive order on wetlands in anticipation of the formation of the interagency working group that has been mentioned. We hope to have our comments completed within a few weeks.

Also, members of the Forum hope to be able to provide Congress with recommendations concerning existing wetland programs that need increased funding.

Perhaps of most interest to this subcommittee is our work on a legislative proposal. At least 20 of the Forum's recommendations require legislative action; others might benefit from incorporation into legislation. Some of the recommendations are sufficiently specific to be incorporated into legislative language. Others, such as the recommendation to delegate the 404 regulatory program to the States, raise additional questions for discussion; for example, what constitutes adequate authority and capability for delegation.

As you can imagine, with the diverse interests represented in the Forum, this process requires the same thoughtful negotiation and consensus-building effort that went into the Forum's initial recommendations. Thus, it is taking time, but we believe it is time well spent.

That briefly summarizes what the Forum has tried to do, our key recommendations, and our implementation plan. When we started, as has been said, many members were uncertain about what we could achieve. Many, frankly, were skeptical of any agreement. But by the time the report was finished, everyone involved was surprised and pleased at how much progress they had made and the extent and usefulness of the recommendations.

While each and every recommendation may not be ideal from every member's perspective, the Forum believes that the entire set of recommendations, taken as a whole, will significantly improve the efficiency and effectiveness of the Nation's efforts to protect and manage its wetlands.

The 101st Congress offers an unusual opportunity for a major initiative. One reason is the emerging consensus among diverse interests about what should be done.

We look forward to working with this committee and thank you very much again for your time and interest.

Mr. **Nowak**. Thank you very much.

We will again hold the questions until we hear from all the panel members, and we will turn now to Mr. Peter Berle, who is a lawyer and who came to great prominence as a commissioner for the New York State agency back in 1976 to 1979, and since 1985, where he assumed the presidency and is chief executive officer of the National Audubon Society.

It is nice to see you again, Mr. Berle.

Mr. **Berle**. Mr. Chairman, I appreciate the opportunity to be before you and also, from a personal note, wanted to mention the fact that during that period that I was running, I think, the largest State pure waters program in the United States, you were of vital help to us to keep that thing going, and your office was always receptive and open, and we were very appreciative of that help.

I appear before you today, as you mentioned, in my capacity as president of the National Audubon Society. We are one of the largest environmental and conservation groups in the United States. We have 560,000 members in all of our States and some abroad. We are engaged in education, we are engaged in lobbying at the Federal, State, and local level. We are engaged in scientific research, and, in addition, we manage over 250,000 acres of wetlands that are in our sanctuary system.

Having heard the comments from some of your colleagues this morning, I would like to point out that 23,000 of those acres are in Louisiana, and perhaps the advantage of being a national organization is that we may lose that property, but fortunately, I don't think we will be eroded out of business. But clearly, the threats that that coastal area is facing dramatize the importance of your work today.

I think it is also important to comment on a problem that I know you continuously face, and that is how do we balance, in theory, the environment on one side of the equation with the economy on the other. I think that is one of the more frequent comments that is made that really ought to be dispelled, because, at least when it comes to wetlands, we are not talking about environment versus economy; we are talking about one form of economic resource versus another.

You have heard it all before, but I think it is worth comment again on the fact that, at least for a wide variety of species, you can produce five times the biomass in a wetland per acre than you do in a corn field. These are the spawning grounds for 90 percent of our annual commercial fishing catch, a very significant commercial activity.

For those of us that are sportsmen, the duck factories in the Midwest are simply wetlands in another term. A third of our endangered species are dependent on these resources for survival. The recreational benefits, I think, are well known to everyone, as is the importance of wetlands with respect to flood control and particularly groundwater recharge in areas when safe and pure drinking is of continuing concern throughout the United States.

You have also heard a lot about the losses that have occurred. While we all bandy about the fact that about half of the wetlands are gone that were here when white settlers came to this country, we should recognize that in many ways those statistics are not totally illustrative.

In California, we have lost 90 percent of the wetland base, and in Iowa we have lost, we think, about 95 percent. So there are areas in which we have not lost half; we have lost practically all of it.

I would like to say a couple of things about the Forum recommendations. First, speaking for the National Audubon Society, we support those recommendations, and we are glad to be part of the process under which they were formulated. They are recommendations that were formulated with a sense of compromise on all sides, and in that sense I think they achieve a good deal of validity.

One of the first points that I would like to talk about is the importance of establishing a national goal and then to talk a little bit about Federal regulatory programs that are necessary to bring that about.

I think it is important to emphasize the need for the goal. While it is always useful to articulate where you think you are going, we should recognize that we have come through a period over the years in which the absence of such a goal has led to conflicting policy. All of us are familiar with occasions under which we were spending public money to acquire wetlands with one hand and spending public money to subsidize their destruction on the other.

Clearly, an articulated goal which tries to give some sense of where we are going and an administration that can bring its agencies under control and point them in that direction is an essential part of this.

Now, the goal itself—and I think this is particularly important—has two pieces: first, the no net loss, and secondly, the vision of rebuilding our wetland base.

We have heard discussion this morning about no net loss, and I would suggest that that is a concept which is going to require a lot of refinement. Simply acre-per-acre swapping may well not achieve the no net loss objective because some wetlands are more productive than others. So how we go about doing that is something which is going to require a lot of help and thought from you and everyone.

Second, the question is, When you talk about no net loss, what is the base that you are talking about? Are you talking about a State-by-State basis, a national base, or a regional base, as Administrator Reilly suggested? And there, from our perspective, speaking now for the Audubon Society, it would appear from our judgment that the State is the largest unit you can look at, but in many situations you have got to look at watersheds or ecosystems, because, clearly, taking a wetland out of one system and putting it somewhere else may not save the values that you are trying to achieve.

The other thing I would like to spend a minute on is the regulatory process which is going to be required to accomplish all of this, and this gets to the question that the report deals with, and that has to do with sequencing. The report makes it quite clear that the first objective is avoidance; the second objective is minimization; and it is only after that that you get to mitigation. If you follow that sequencing process, you can avoid some of the difficulties that have been pointed out, that you may mitigate in one area and not achieve the value that you lost when you filled or destroyed in another.

We all recognize that this involves judgment. We all recognize that comparing values is not easy. But as one does that, it also becomes important, I think, given any bias, to look at the preservation of natural systems. A wetland in a particular spot may not appear to have high value but may be part of a hydrological regime, an underground plumbing system, which, when destroyed, will have greater impact than substituting a system elsewhere.

We know that there has been some conflict between EPA and the Corps with respect to the sequencing of the mitigation issue. That is a conflict which will be before everybody again as the review of the Two Forks Dam permit continues in Colorado, but we submit that the sequencing as the EPA now incorporates in their regulations, which involves dealing with the avoidance issue first, is the appropriate one, and we think the Forum's recommendations on that are helpful.

There is also the problem with enforcement. We have heard a lot about enforcement today, and I think all of us are aware of the fact that enforcement is not easy. There simply are not enough Federal or State or local officials to keep track of every wetland. In a society in which people are shooting one another with automatic rifles and drug wars on the streets, for an aggressive prosecutor, there is a lot more sex appeal in prosecuting drug lords than there is in prosecuting people who dump things in wetlands.

One of the ways we have to deal with enforcement is not only to see that the resources are in the enforcement agencies to deal with the issue but to encourage a climate of public support for that activity.

Again, speaking for the Audubon Society, we have had a good deal of success with wetlands watch programs in which our members will watch wetlands in their areas and participate not only in the hearings to protect those but serve as eyes and ears for enforcement agencies so that they can take effective action.

Finally, let me suggest that all of this makes sense provided you have the science to back it up, and I well recognize that arguing that we should spend more money on science is always a useful thing to do and nobody pays much attention to it because there isn't money available, but I think that the research end of refining the process by which we identify wetland values and by which we figure out what should qualify for protection needs to be done.

It is always easy again to talk about spending money and not talk about where it comes from. Again, speaking in my Audubon capacity rather than as a member of a Forum, I would suggest to you, as we suggested to President Bush when we met with him not long ago, that if you don't want to call it a tax, you can call it a carbon user fee, but some increase of the Federal gasoline tax with those revenues being devoted to some degree to increased environmental protection would be a sound investment for this country.

Thank you, sir.

Mr. **Nowak**. Thank you very much.

We will now hear from Fred Worstell, who is vice president of Melvin Simon and Associates.

Mr. **Worstell**. Thank you, Mr. Chairman and members of the subcommittee.

I am Fred Worstell, Vice President for Engineering for Melvin Simon and Associates. We are an Indianapolis-based developer, and we are one of the largest retail developers in the country, with projects in over 30 States. I think that was one of our most important elements with the Forum in that we have a broad range of experience.

I am not here as a spokesman for the real estate industry, but I provide, as a member of that industry, an outlook on the impact of the wetlands regulatory process on real estate development.

We participated in the Forum because we believe strongly that development must become more environmentally sensitive. We believe that development projects can be planned to better protect important natural resources such as wetlands.

At the same time, the increasing scope of land use regulation at the Federal and State levels has become a complex problem for the private sector, increasing, we believe, unnecessarily the cost of development, a cost ultimately being borne by the end user, the public.

Wetlands regulation has been an area of increasing concern, and the inconsistency of policy interpretation between agencies at both the State and Federal levels has made the impact of the regulations on development proposals difficult to predict.

Both Mr. Simon and I lack the scientific training to adequately assess the seriousness of the ongoing wetlands loss in this country. What is clear is that it is irresponsible to continue the rate of conversions and fail to develop a reliable information base with which the environmental and societal impacts can be evaluated. Thus, we support the no-overall-net-loss goal as stated in the Forum report.

The management of our wetlands resources will be a particularly vexing and difficult effort. The geographic variability and the wide functional range of wetlands cause a multitude of environmental and geopolitical impacts.

The complexity of the wetlands resources and the lack of comprehensive scope of the current regulatory process has produced inefficient wetlands protection. We believe that any program that attempts to regulate this resource on a piecemeal basis, such that we believe 404 does now, rather than focusing on the larger national, regional, and local characteristics of the resources, will be similarly less than successful.

We participated in the Forum because it provided an opportunity to devise approaches, both regulatory and non-regulatory, to improving management of our wetland resources. As a comprehensive program, the Forum recommendations will increase the effectiveness of the protection afforded wetlands while removing the inefficiency in the regulations and spreading the burden equitably between the public and private sectors across the country.

I would like to focus on two areas that I felt that the Forum recommendations were very strong. One is in the concept of advance planning. We find ourselves in a very real-time situation of trying to resolve a multitude of complex planning issues when we move forth with a development project, wetlands being just one of the many problems that we deal with. But when you are dealing with a project that is in a $100 million scale, our time and the costs associated with that time become very, very significant.

We believe that the mapping of the resources and the information about the functional values and planning can identify areas that more or less suitable for development, and the planning can also identify promising sites for restoration of degraded wetlands to permit some continued conversions while helping achieve the no-overall-net-loss goal.

We believe the Forum's recommendations for local and State-initiated planning, with coordination by Federal agencies, will provide the type of coordinated regulatory effort that will facilitate rather than hinder responsible development.

The Forum's recommendation that the 404 program be delegated to the States that have the authority and capability to carry it out serves to reduce the number of agencies involved in each permit decision and helps to achieve consistency and predictability in the regulatory decisions.

I think, most importantly, the Forum recommends public and private partnerships in such vital areas as research on wetland restoration and creation, establishment and management of mitigation banks, and action toward restoring wetlands systems that are already degraded.

What I believe are important societal needs man has and, as is recognized in the Forum's goal, will continue to have would indicate some conversion of wetlands areas to support growth of industry and population. I think, in the context of the Forum's goal, the challenge before us is to begin to explore alternative regulatory models that will consider the competing needs of our society and provide better, more efficient means of balancing resource conversion.

Regulatory programs that are reactive in nature will continue to be unequal to the task of protecting such a complex resource as wetlands. Programs which are diverse and inefficient in the utilization of financial and human resources will exert a drain on the Nation's energies.

Indeed, the shortage of capable technicians to administer and address the wide range of current regulatory programs is a continuing governmental and private sector problem.

As private industry, we do recognize that all levels of government are facing tight budgetary constrains and must move cautiously on recommendations that increase expenditures. In the case of wetland resource management, there is a need to improve the Nation's return on investment, and we believe the Forum program represents this improvement.

Thank you.

Mr. NOWAK. Thank you very much for all your testimony.

I just am thinking about the scope of our Federal 404 program and where it fits into all of the activities that each of you has mentioned. Going through the issue book that you came forth with, we looked at where the loss of these wetlands is occurring, and by what activity.

On page 12 we look at the only report, I guess, which has been made related to that question, and that is the Fish and Wildlife Service report on the study which was done, and they concluded that 80 percent of the freshwater wetlands lost between 1955 and 1975 had been because it was converted to agricultural uses, and you came to the conclusion, or they did, that 6 percent had been converted to urban uses, which I would assume are developers, both residential and commercial, outside of our cities.

They came to the conclusion also that the depressed agricultural prices and the passage of the 1985 Food Security Act have probably reduced the rate in which wetlands are converted to agricultural use.

But when you look at the goal that you set up of no net loss, and you look at the—and I guess I am going to ask each of you this question—how, if it is true that if we permitted perfectly under the 404 program, the 402 program, and all of those were done to everybody's satisfaction, you are probably only talking about 20 percent of the loss of wetlands or approximately in that area. That leaves 80 percent to other, actions or others that are involved, either

State actions or perhaps State inactions or local inactions. In any event, that is 80 percent.

If we are going to prevent net loss, suppose we prevented 100 percent of the 20 percent. That leaves you with 80 percent of it. I think that is the point the committee members have to understand. We have not touched that to any substantial degree by any present, ongoing program.

What do we need to do, both administratively and legislatively, to reach out and start to have an impact? I do not see, if we had, as I say, a perfect Federal present structured program, that we are going to reach any more than 20 percent of that loss that is occurring every day.

I wonder if you would like to comment on that.

Ms. DAVIS. I can start just very briefly.

I think you raise an excellent point, and we grappled with that and concluded that certainly there is no one answer to how you stop this tremendous loss, that it takes a variety of tools, but it takes some of the ones over which you have jurisdiction and some over which we think the States should, and as you have repeated, the need for a national education program.

We think several major steps are required. The 404 program should be amended to be more comprehensive in its scope. But secondly, States, as I mentioned earlier, should be required to put in place comprehensive freshwater wetland, all wetlands conservation plans that provide a framework for how they intend to implement a no-overall-net-loss goal within that State.

We chose States as a logical place for the best oversight and knowledge of the local resources and the planning, the central point for planning for preservation of all the resources. We also looked at a variety of incentives. We have mentioned already the need for additional resources for planning and regulatory programs by the State.

For example, in New Jersey, we put in place permit fees and are looking at a variety of other kinds of incentives and ways of raising money to actually acquire and preserve wetlands. So the bottom line is, it takes a lot of things, but I think one of the most important things that can be done is to amend 404 and, as part of that, improve the possibilities for delegation and require States to put in place these comprehensive plans.

Ms. BINGHAM. As a specific additional response to that, one of the causes of the 80 percent loss is the ongoing effects of past human activities, and the Mississippi delta is certainly the largest example of that in our Nation where the prevention of increased sediment to the delta has caused loss of wetlands.

One of the recommendations that the Forum made that we would urge the task force under the Domestic Policy Council to take seriously, and your committee might also want to take up, is that the Federal Government, with its vast holdings of public land, do an inventory of its lands and of the wetlands in Federal ownership and begin a wetlands restoration program within the scope of Federal lands.

Many of those large public works projects that have held back sediment from flowing to the Mississippi delta could then be compensated in other areas within Federal jurisdiction. That might be one additional tool; there are many others.

Peter, did you want to speak to that?

Mr. **Nowak**. Gail, you mentioned the subcommittees that are going to be developing implementing recommendations. These are the kinds of recommendations that are going to be put into legislative language for our committee to consider, hopefully, in a few months. Isn't that correct?

Ms. **Bingham**. Yes, sir.

Mr. **Nowak**. And in hard form, you are going to accomplish that in legislative form. One of the questions is, can you hold the consensus together of your group for those changes? We talked about broadening, and it is one thing to say broaden the 404 program; it is another thing to say we are going to look into this activity under the 404 and be able to put that in legislative language and have it adopted on the House floor.

Ms. **Bingham**. I certainly would look to your skill in dealing on the House floor.

I think you have raised, obviously, a very important point.

Mr. **Nowak**. One of the things that is going to be very important here, and you know we did this with the sludge bill and some other things, to get that consensus on the floor, you know, this land problem is very visible, especially in some areas of the country, and to get that consensus through—I have had one of our governors, not a governor but a mayor, come to see me and talk about non-point-source pollution and talking about combined sewage overflow and saying, we will never clean up no matter what we do under the construction grant program if we do not have $117 billion for combined sewer overflow. And now they are going back to the League of Cities, they are going back to the Governors Association and getting direct resolutions relating to those two subjects.

I would hope that, as you are working through the process, that we can gain the support of many Members who perhaps would be uneasy unless they could see that there is a groundswell through the educational process that you have instituted and then, of course, through the subcommittees and the Governors Association and the League of Cities, because other land-use planning initiatives are not going to fly if they are all alone out there.

So I hope we can truly implement some of this and bring that to us so that we can put it together as a package and a consensus package with the administration, with your organization, and with the Governors and League of Cities, at least. I think that would be a great service, and you would have fulfilled your mission in life if you can carry this to the next step. [Laughter.]

Ms. **Bingham**. I would make two points in response to what you said. It is very important, and there has been laughter in the audience in part because the members of the Forum know how difficult it has been and what a challenge it has been to deal with the different perspectives in our country about wetlands management and wetlands protection.

The reason this report has received such attention is because of the unusual consensus. In my profession as a mediator, this is what we try to do, is to try to bring people together. The differences of opinion do not go away; the differences of interest do not go away.

I would make two points to your comment. One is our commitment to continue to work together during the implementation process to bring that kind of consensus to you. In my experience over the last 2 years with the members of the Forum, I have come to respect these members very, very highly and their commitment to working together to come up with recommendations that meet a diverse interest.

The second point picks up from something you said that I think is a key, and that is the package that we put together. Development interests, agricultural interests, environmental interests, and interests at different levels of government each face different and legitimate problems in wetlands management, and what we need to do is to continue to move forward, as I believe we did in the Forum report, with a package of solutions that meet those problems as experienced by those different interests, and we will continue to work with you to do that.

Mr. **Berle**. I would like to comment first on the politics briefly and then on the substance.

When you ask, can this Forum group stay together as you get more specific?, I guess my response to that is, on some issues it will and on some it will not. On the other hand, as I travel across the country—and I traveled 90,000 miles in the last year—for the Audubon Society, my sense is that the public recognition and awareness and concern about environmental issues is ahead of most of us, indeed, some of us who are in this business professionally, so that while the consensus may not stay totally intact, I think the larger body of public opinion supports action to be taken even at the expense of some special interests that may be affected. That does not mean that we do not have to listen to them, but at some point decisions have to be made.

With respect to the larger question about even if you clean up the whole Federal act entirely, what happens to the other 80 percent, let me suggest a couple of things. First, dealing with that stuff that is under Federal jurisdiction now is important. There are things such as including hydrological regimes and chemical contamination in the 404 process that would aid it significantly. We could bring drainage under the 404 program, which I am sure will raise a lot of eyebrows.

But even after we have done all of that, there are other things that we can do, particularly on the Federal side, that are not totally regulatory. For a number of years, particularly about 2 years ago, we were going through a farm crisis in which large numbers of farms were being taken over by Federally insured banking institutions because they were simply not able to meet their deadlines.

We have the opportunity to use some of that debt which is going to be underwritten by the taxpayer, anyway, to keep the farmer in business, to leave the resource in better shape, and at no additional cost to the government, by using some of that debt which otherwise would be written off to buy conservation easements on wetlands on farms that are otherwise being foreclosed.

Now, that is theoretically possible under about a third of the farm credit umbrella, but two-thirds of the implementing statutes, or two-thirds of the program, that is not possible, and even where it is possible, it is very cumbersome.

So we can do some things that we seem to be very good at telling other developed countries to do in our own farmlands in a way which will benefit the farmer, benefit conservation, and also help the bottom line of the farm debt. So we have got to be more imaginative.

Finally, however, as you appropriately point out, unless you have comprehensive action at the State level, you are simply not going to close the loop here. Some States, New Jersey, I am glad to say New York, and others, have very comprehensive wetlands statutes. Their problems now are not getting the consensus to get it through; their problems are administering those.

There are other States that have very little State protection, and throughout our history, we have been fairly imaginative in providing incentives for States to do things that they probably ought to do anyway, and that obviously involves money, and I well recognize that one is not supposed to talk about money these days, but you might want to consider ways in which various kinds of cost-sharing, various kinds of incentives are provided, not only for those States that have not moved but for those States that have moved and are trying to implement programs.

But, clearly, without comprehensive State freshwater and in places where you have coastal areas, salt water wetlands legislation, we are simply not going to get it done.

Mr. NOWAK. Fred, would you like to address that point?

Mr. WORSTELL. I don't have anything to add.

Mr. NOWAK. Well, we have, I think, a lot of alternatives to look at, but I do not see, unless I am misreading this no-net-loss goal, that if we do not extend this program to other areas, you are not going to be able to accomplish it.

Now, that is going to take some additional money, whether it is a combination of shifting dollars that you are looking at and some new type of user taxes, or it is not called a tax if it is revenue enhancement. We have to, I think, be aware of all of those opportunities that are out there.

Let me just thank the committee. I only have a couple of minutes to vote here. But this was, I think, a very useful first meeting because we have got, really, the experts here, and you have all participated in the writing, and this is, of course, a great help to this committee, as it will be to the other committees as they go through their interested areas in these programs.

But I think we are going to have a unique opportunity to do something about this because of the basic foundation you have built. But I hope you realize that that foundation is going to be a little shaky unless we have some basis of revenue and some incentives for these States to get into the program and some standards that we can apply so that everybody feels that they are fairly taken care of, and of course, you have done a lot of that in your consensus-building up to this point.

But let me thank you, and our staff will be getting back to you as we go through the hard part of bringing recommendations forward to actually have the impact that is the goal of your efforts.

So again, thank you for all your work, and we will be back to you shortly. Thank you again.

The subcommittee will adjourn, and we will be back a week from today.

Thank you.

[Whereupon, at 2:16 p.m., the subcommittee recessed, to reconvene on Wednesday, April 19, 1989.]

[The prepared statements of Ms. Davis, Ms. Bingham, Mr. Berle, and Mr. Worstell follow:]

REMARKS OF

BRENDA S. DAVIS

CHIEF OF POLICY AND PLANNING

OFFICE OF GOVERNOR THOMAS H. KEAN

STATE OF NEW JERSEY

BEFORE

HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE

SUBCOMMITTEE ON WATER RESOURCES

APRIL 12, 1989

GOOD MORNING, MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE. I APPRECIATE THE OPPORTUNITY TO TESTIFY THIS MORNING ON BEHALF OF GOVERNOR KEAN OF NEW JERSEY.

GOVERNOR KEAN IS CHAIRMAN OF THE NATIONAL WETLANDS POLICY FORUM, AND HE ASKED ME TO CONVEY HIS THANKS TO YOU FOR HOLDING THIS HEARING. HE ALSO ASKED THAT I CONVEY SOME OF HIS THOUGHTS AND PERSPECTIVES ON THE FORUM AND, SPECIFICALLY, ON ITS RECOMMENDATIONS REGARDING THE ROLE OF STATES IN WETLANDS PROTECTION.

THE NATIONAL WETLANDS POLICY FORUM WAS CREATED BECAUSE THE STATUS QUO IN WETLANDS PROTECTION IS ABSOLUTELY UNACCEPTABLE. CONVERSION OF WETLANDS -- FOR FARMING, FOR URBAN AND SUBURBAN DEVELOPMENT, FOR OIL, GAS AND TIMBER DEVELOPMENT AND FOR PUBLIC PROJECTS LIKE DAMS AND CANALS -- REACHED NEARLY ONE-HALF MILLION ACRES A YEAR OVER THE PAST FEW DECADES.

ALL TOLD, WE HAVE LOST MORE THAN HALF OF THE WETLANDS WHICH EXISTED WHEN THIS NATION WAS CREATED. NEARLY 100 MILLION ACRES OF WETLANDS HAVE BEEN CONVERTED TO OTHER USES. TO PUT THIS IN CONTEXT, 100 MILLION ACRES IS TWENTY TIMES THE SIZE OF THE STATE OF NEW JERSEY, AND JUST A LITTLE SMALLER THAN CALIFORNIA.

THESE LOSSES COME AT A VERY HIGH COST. WETLANDS PROVIDE MULTIPLE, INTERRELATED ENVIRONMENTAL BENEFITS. WETLANDS PROVIDE HIGHLY EFFECTIVE NATURAL FLOOD CONTROL BY SERVING AS FLOODWAYS AND FLOOD STORAGE AREAS. BY MODERATING THE IMPACT OF STORM TIDES AND WAVES, THEY REDUCE SHORELINE EROSION.

WETLANDS ALSO SERVE CRITICAL BIOLOGICAL FUNCTIONS. BY ACTING AS NURSERY AND SPAWNING AREAS AND SERVING AS THE BASE OF IMPORTANT FOOD CHAINS, THEY PLAY ESSENTIAL ROLES IN THE PRODUCTION OF FISH AND SHELLFISH AND WETLANDS ARE CRITICAL TO THE MASSIVE ANNUAL MIGRATION OF DUCKS, GEESE AND OTHER WATERFOWL ON ALL THREE OF AMERICA'S MAJOR FLYWAYS. AREAS LIKE THE PRAIRIE POTHOLE REGION OF THE UPPER MIDWEST AND THE COASTAL WETLANDS ALONG NEW JERSEY'S DELAWARE BAY ARE IMPORTANT RESTING AND FEEDING POINTS FOR LITERALLY MILLIONS OF MIGRATING WATERFOWL.

WETLANDS ALSO PROVIDE A HOST OF OTHER BENEFITS -- FROM HARBORING ENDANGERED SPECIES TO RECHARGING GROUNDWATER AND FILTERING SEDIMENT AND TOXIC POLLUTANTS FROM RUNOFF.

BUT NOT LEAST OF ALL, THEY PROVIDE WHAT CAN BE CALLED RECREATION, BUT WHICH SHOULD REALLY BE CALLED CONTEMPLATION -- THEY PROVIDE SOME OF THE MOST BEAUTIFUL, QUIET, NATURAL PLACES IN AMERICA. IN TODAY'S WORLD, THAT'S NOT A VALUE WE SHOULD IGNORE.

IN FOCUSING ON THE CRITICAL ECOLOGICAL FUNCTIONS OF WETLANDS, I DO NOT MEAN TO IMPLY THAT CONVERSION OF WETLANDS HAS NOT PRODUCED OTHER BENEFITS, OR THAT IT HAS BEEN UNDERTAKEN FOR NO REASON AT ALL. OUR FARMS PROVIDE FOOD AND FIBER FOR PEOPLE AROUND THE WORLD. SUBURBAN HOMES AND COASTAL DEVELOPMENTS ARE IN GREAT DEMAND AS OUR POPULATION GROWS. WATER RESOURCES PROJECTS CAN HELP ENSURE ADEQUATE SUPPLIES OF CLEAN, FRESH WATER. AND, IN MANY CASES, OIL, GAS AND TIMBER ARE LOCATED IN OR OVER WETLANDS, MAKING THEIR EXPLORATION WITHOUT WETLANDS ALTERATION DIFFICULT OR IMPOSSIBLE.

THUS, THE PROTECTION OF OUR NATION'S REMAINING WETLANDS PROVIDES A CLEAR EXAMPLE OF ONE OF THE GREATEST CHALLENGES FACING POLICY MAKERS TODAY: HOW BEST TO MEET THE TWIN GOALS OF ECONOMIC GROWTH AND ENVIRONMENTAL PROTECTION.

FAR FROM BEING MUTUALLY EXCLUSIVE, ECONOMIC GROWTH AND ENVIRONMENTAL PROTECTION ARE MUTUALLY DEPENDENT. GOVERNOR KEAN HAS LONG RECOGNIZED THIS INTERDEPENDENCE, AND THIS RECOGNITION WAS A MAJOR REASON FOR HIS DECISION TO BECOME CHAIRMAN OF THE NATIONAL WETLANDS POLICY FORUM.

IN CONVENING THE FORUM, AT THE REQUEST OF THEN-EPA ADMINISTRATOR LEE THOMAS, GOVERNOR KEAN AND THEN-CONSERVATION FOUNDATION/WORLD WILDLIFE FUND PRESIDENT BILL REILLY WORKED CAREFULLY TO ENSURE THAT BOTH ENVIRONMENTAL AND ECONOMIC CONCERNS WERE WELL REPRESENTED. MY FELLOW PANELISTS TODAY WILL PROVIDE YOU WITH MORE DETAIL ON THE HISTORY AND MEMBERSHIP OF THE FORUM, AND ON THE PROCESS USED TO REACH CONSENSUS. HOWEVER, I WOULD LIKE TO EMPHASIZE THE BROAD REPRESENTATION OF THE FORUM. ALL MAJOR INTERESTS, INCLUDING TIMBER, OIL AND DEVELOPMENT FIRMS, FARMERS, STATE, FEDERAL AND LOCAL OFFICIALS, ENVIRONMENTALISTS AND ACADEMICS, WERE INCLUDED.

THIS BROAD REPRESENTATION MAKES THE CONSENSUS REACHED BY THE FORUM TRULY SIGNIFICANT. ALL SIDES RECOGNIZED THEIR MUTUAL INTEREST IN DEVELOPING A FAIR AND WORKABLE SYSTEM, BUT ONE WHICH PROVIDES REAL PROTECTION TO WETLANDS.

IN NEW JERSEY, WITH A STRONG ECONOMY, LOW UNEMPLOYMENT AND HIGH PER CAPITA INCOME, WE KNOW THAT UNLESS WE PROTECT OUR NATURAL RESOURCES, OUR ECONOMIC RESOURCES WILL FIND GREENER PASTURES. LIKEWISE, WE KNOW THAT OUR RULES MUST BE FAIR AND UNDERSTANDABLE, AND OUR DECISIONS TIMELY.

PASSAGE OF THE NEW JERSEY FRESHWATER WETLANDS ACT OF 1987 IS THE MOST RECENT STEP IN PUTTING THAT REALIZATION INTO PRACTICE.

NEW JERSEY PASSED STRONG COASTAL WETLANDS PROTECTION LEGISLATION IN 1970. HOWEVER, FRESHWATER WETLANDS WERE STILL BEING LOST AT UNACCEPTABLE LEVELS UNTIL 1988, WHEN OUR NEW FRESHWATER WETLANDS PROTECTION PROGRAM WENT INTO EFFECT.

WHILE THE ARMY CORPS REGULATES THROUGH THE SECTION 404 PROGRAM, AND WE USED STREAM CORRIDOR AND WATER QUALITY RULES TO PROTECT WETLANDS WHERE WE COULD, NEW JERSEY NEEDED STRONGER AND MORE DIRECT TOOLS TO PROTECT OUR REMAINING 300,000 ACRES OF FRESHWATER WETLANDS.

THE DEBATE WAS A LONG AND SOMETIMES BITTER ONE. FOR NEARLY FOUR YEARS, THE OPPONENTS OF WETLANDS PROTECTION BATTLED AND DELAYED. BUT GOVERNOR KEAN WAS CONVINCED THAT OUR REMAINING WETLANDS WERE CRITICAL AND REQUIRED PROTECTION AND THAT ENOUGH DEVELOPABLE LAND EXISTED IN NEW JERSEY -- OUTSIDE OF WETLANDS -- TO SAVE WETLANDS WITHOUT STIFLING ECONOMIC GROWTH.

FINALLY, IN JUNE OF 1987, THE GOVERNOR IMPOSED A MORATORIUM ON ALL BUILDING IN WETLANDS IN THE STATE, AND PROMISED TO LIFT THE BAN AS SOON AS THE LEGISLATURE ENACTED A STRONG WETLANDS BILL. LESS THAN THREE WEEKS LATER, ON JULY 1, 1987, HE SIGNED A TOUGH BUT FAIR NEW LAW REGULATING DEVELOPMENT IN FRESHWATER WETLANDS, AND SIMULTANEOUSLY LIFTED THE BUILDING BAN.

THE PERMITTING PROGRAM UNDER THE NEW LAW WENT INTO EFFECT IN JULY 1988. ALTHOUGH THE NEW PROGRAM HAS BEEN IN EFFECT FOR LESS THAN ONE FULL YEAR, ALL INDICATIONS ARE THAT IT IS A SUCCESS. RATHER THAN FACING UNCERTAINTY REGARDING WHETHER AN AREA MIGHT BE REGULATED INDIRECTLY UNDER WATER QUALITY OR FLOOD PLAIN RULES, DEVELOPERS NOW HAVE A CLEAR WETLANDS DEFINITION TO WORK WITH, AS WELL AS SPECIFIC DELINEATION PROCEDURES, APPEALS PROCESSES AND MITIGATION SEQUENCING REQUIREMENTS. STATEWIDE WETLANDS MAPPING IS ALSO UNDERWAY.

REPORTS FROM THE FIELD INDICATE THAT THE EXISTENCE OF A CLEAR DEFINITION AND REGULATORY PROCESS IS HELPING DEVELOPERS TO UNDERSTAND MUCH MORE CLEARLY WHERE THEY CAN EXPECT TO BE ABLE TO BUILD, WHAT AREAS THEY SHOULD AVOID, AND HOW TO MOVE THROUGH THE PERMITTING PROCESS.

AS YOU CAN SEE, NEW JERSEY'S EFFORTS TO PROTECT WETLANDS HAVE COME A LONG WAY FROM THE FEDERAL "SWAMP ACTS" OF THE LAST CENTURY, WHICH GAVE WETLANDS TO ANYONE WILLING TO FILL THEM. BUT, MUCH MORE IS NEEDED. WETLANDS ARE A NATIONAL RESOURCE THAT CAN BE PROTECTED ONLY IF FEDERAL, STATE, AND LOCAL GOVERNMENTS AND THE PRIVATE SECTOR WORK TOGETHER.

THROUGHOUT TODAY'S PRESENTATIONS, YOU WILL HEAR DETAILS REGARDING SOME OF THE FORUM'S SPECIFIC RECOMMENDATIONS.

I WILL CONCENTRATE ON THREE OF THE FORUM'S MOST CRITICAL RECOMMENDATIONS. THEY ARE:

- THE NEED FOR A GOAL TO GUIDE OUR WETLANDS POLICIES;

- THE IMPORTANCE OF INCREASING THE ROLE OF STATES IN WETLANDS PROTECTION; AND, FINALLY,
- THE CRITICAL NEED FOR CONGRESSIONAL ACTION.

ONE OF THE PRIMARY CONCLUSIONS OF THE NATIONAL WETLANDS POLICY FORUM WAS THAT OUR CURRENT WETLANDS PROTECTION EFFORTS, FROM THE SECTION 404 PERMITTING PROGRAM, TO SWAMPBUSTER, TO THE ACQUISITION OF WILDLIFE REFUGES, ARE UNCOORDINATED, UNFOCUSED AND INEFFECTIVE. THE PROOF OF THIS CONCLUSION IS THAT WE ARE STILL LOSING AS MUCH AS ONE-HALF MILLION ACRES OF WETLANDS A YEAR.

AT TIMES, FEDERAL PROGRAMS IMPOSE BURDENSOME COSTS ON WETLANDS OWNERS, CONFLICT WITH ONE ANOTHER, AND OBVIOUSLY LEAVE MAJOR GAPS IN THE PROTECTION OF WETLANDS. PERHAPS MOST IMPORTANTLY, OUR NATIONAL WETLANDS PROGRAMS LACK A COHERENT GOAL.

PERHAPS THE MOST IMPORTANT SINGLE RECOMMENDATION OF THE FORUM IS THAT THE NATION SHOULD ADOPT A CLEAR AND UNEQUIVOCAL GOAL TO GUIDE ITS WETLANDS POLICIES.

ALTHOUGH THE CLEAN WATER ACT CONTAINS AN OVERALL GOAL FOR THE NATION'S WATERS ("TO RESTORE AND MAINTAIN THE CHEMICAL, PHYSICAL AND BIOLOGICAL INTEGRITY OF THE NATION'S WATERS"), THE FORUM RECOGNIZED THAT THE NATION'S WETLANDS PROGRAMS DESERVE MORE SPECIFIC GUIDANCE.

WE CONCLUDED THAT, WITHOUT A CLEAR GOAL, WETLANDS PROGRAMS WILL CONTINUE TO BE INCONSISTENT AND UNFOCUSED. THE FORUM RECOMMENDED THAT:

> THE NATION ESTABLISH A NATIONAL WETLANDS PROTECTION POLICY TO ACHIEVE NO OVERALL NET LOSS OF THE NATION'S REMAINING WETLANDS BASE AS DEFINED BY ACREAGE AND FUNCTION, AND TO RESTORE AND CREATE WETLANDS, WHERE FEASIBLE, TO INCREASE THE QUALITY AND QUANTITY OF THE NATION'S WETLANDS RESOURCE BASE.
>
> INTERIM GOAL
>
> > TO ACHIEVE NO OVERALL OVERALL NET LOSS OF THE NATION'S WETLANDS REMAINING RESOURCE BASE.
>
> LONG-TERM GOAL:
>
> > TO INCREASE THE QUANTITY AND QUALITY OF THE NATION'S WETLANDS RESOURCE BASE.

ADOPTION OF THIS GOAL IN NATIONAL LEGISLATION WILL SEND A CLEAR SIGNAL THAT THE CONTINUING LOSS AND DEGRADATION OF THE NATION'S WETLANDS IS NOT ACCEPTABLE.

THE TWO-PART NATURE OF THE GOAL PROVIDES AN IDEAL SCHEME FOR DEVELOPING AND EVALUATING PROGRAMS. THE INTERIM GOAL OF NO NET LOSS SETS OUT A DEFINED, MEASURABLE OBJECTIVE.

WITHIN THAT CONTEXT, THE GOAL PROVIDES FLEXIBILITY TO ALLOW CRITICAL PROJECTS WITH UNAVOIDABLE WETLANDS LOSSES TO PROCEED. THE FORUM RECOGNIZED THAT, ALTHOUGH THE GOAL WILL REQUIRE A SIGNIFICANT REDUCTION IN THE RATE AT WHICH WETLANDS ARE ALTERED, ALTERATIONS CANNOT BE STOPPED ENTIRELY. SOME ALTERATIONS OCCUR NATURALLY, OTHERS RESULT FROM PAST HUMAN ACTIONS, AND SOME UNAVOIDABLE LOSSES RESULT FROM BENEFICIAL HUMAN ACTIVITIES.

THE LONGER TERM ASPECT OF THE GOAL -- INCREASING OUR WETLANDS RESOURCE BASE -- REMINDS US THAT WE CANNOT BE SATISFIED WITH STOPPING WETLANDS LOSS. WE HAVE ALLOWED SERIOUS DEGRADATION OF A CRITICAL ENVIRONMENTAL ASSET, AND WE MUST WORK TO RESTORE THAT ASSET.

AN IMPORTANT IMPLICATION OF THE NO-NET-LOSS GOAL IS THAT A VARIETY OF TOOLS ARE NECESSARY TO ACHIEVE OUR WETLANDS PROTECTION OBJECTIVES. WE CANNOT PRESUME THAT REGULATORY EFFORTS, TAX PREFERENCES AND INCENTIVES, OR RESEARCH AND DEMONSTRATION EFFORTS ALONE WILL ENABLE US TO MEET OUR GOAL. ALL OF THESE TOOLS ARE CRITICAL.

THE SECOND MAJOR RECOMMENDATION OF THE FORUM WAS THAT STATES SHOULD PLAY A GREATER ROLE IN WETLANDS PROTECTION. WITH APPROPRIATE RESOURCES AND LEGAL AUTHORITY, STATES ARE IN AN IDEAL POSITION TO IMPLEMENT MUCH OF THE NECESSARY PLANNING AND REGULATION.

STATES CAN EMPLOY DETAILED LOCAL KNOWLEDGE OF THEIR SPECIFIC WETLAND TYPES AND THE PARTICULAR CHARACTERISTICS OF THEIR ECONOMY OR GEOGRAPHY LEADING TO WETLANDS LOSS. STATES ARE ALSO LIKELY TO PROVIDE FASTER AND MORE PREDICTABLE DECISIONMAKING, AND ARE, IN MANY CASES, UNDERTAKING MAPPING AND OTHER ASSESSMENT WORK ALREADY. STATES ALSO OPERATE MANY OTHER ENVIRONMENTAL PROGRAMS (BOTH REGULATORY ONES, SUCH AS THOSE UNDER THE CLEAN WATER ACT AND OTHERS, SUCH AS LAND ACQUISITION UNDER THE LAND AND WATER CONSERVATION FUND) WHICH SHOULD BE CONSIDERED IN WETLANDS MANAGEMENT DECISIONMAKING.

AS A FIRST STEP, THE FORUM RECOMMENDS STATES SHOULD DEVELOP COMPREHENSIVE STATE WETLANDS CONSERVATION PLANS, WITH INPUT FROM LOCAL GOVERNMENTS AND FEDERAL AGENCIES INCLUDING THE CORPS, EPA, AND THE FISH AND WILDLIFE SERVICE.

THESE PLANS WILL PROVIDE THE FRAMEWORK FOR CREATING A COORDINATED WETLANDS MANAGEMENT PROGRAM AND FOR ASSESSING PROGRESS IN ACHIEVING OUR WETLANDS GOALS. IT ALSO WILL ENABLE STATES TO ENSURE THAT EVERY UNAVOIDABLE WETLANDS LOSS IS BALANCED BY CORRESPONDING GAINS.

THE FORUM RECOMMENDED THAT STATES ADOPT TOUGHER REGULATORY PROGRAMS TO ENSURE THAT ALL THREATS TO WETLANDS ARE CONTROLLED. THE REGULATORY COMPONENTS WOULD INCLUDE ZONING RESTRICTIONS AND PERMITTING PROGRAMS.

NON-REGULATORY PROGRAMS, SUCH AS ADVANCED IDENTIFICATION UNDER SECTION 404 OF THE CLEAN WATER ACT, EDUCATION OF WETLANDS OWNERS, AND ACQUISITION OF TITLE OR EASEMENTS, ARE ALSO ESSENTIAL.

ONE OF THE MOST COMMON CRITICISMS OF THE SECTION 404 PROGRAM IS THAT ITS IMPLEMENTATION IS FRAGMENTED BETWEEN FEDERAL AGENCIES. IN ADDITION, THOUGH IT IS POSSIBLE TO DO SO, FEW STATES HAVE APPLIED FOR DELEGATION OF THE SECTION 404 PROGRAM.

FEDERAL PROGRAM FRAGMENTATION RESULTS IN DELAYS DUE TO INTERAGENCY COMMUNICATION PROBLEMS, DISPUTES OVER AUTHORITY, AND SUBSTANTIVE DISAGREEMENTS.

LACK OF STATE ASSUMPTION MEANS THAT, IN MANY STATES, TWO ENTIRELY SEPARATE PROGRAMS -- THE FEDERAL ONE AND A STATE ONE, ARE IN PLACE. THIS FORCES THE PRIVATE SECTOR TO NEGOTIATE TWO PERMIT PROGRAMS WITH DIFFERING SUBSTANTIVE AND PROCEDURAL REQUIREMENTS AND TIMETABLES.

THE FORUM STRONGLY RECOMMENDED CHANGES TO FEDERAL LAW TO ENCOURAGE DELEGATION OF THE SECTION 404 PERMITTING PROGRAM TO STATES.

OPERATION OF THE 404 PROGRAM BY STATES PROVIDES AN OPPORTUNITY NOT ONLY TO TAKE ADVANTAGE OF THE LOCAL KNOWLEDGE AND RESPONSIVENESS OF STATES. IT ALSO ALLOWS THE PRIVATE SECTOR TO DEAL WITH A SINGLE AGENCY, RATHER THAN AT LEAST TWO FEDERAL ONES AND FREQUENTLY, A STATE AGENCY AS WELL.

BY ALLOWING ALL PERMITTING AND REGULATORY ACTIVITIES TO BE CONDUCTED BY ONE ENTITY, MUCH OF THE CONFUSION, DELAY AND FRUSTRATION WHICH HAS SURROUNDED THE 404 PROGRAM COULD BE ALLEVIATED.

WHILE THE FORUM RECOMMENDED A NUMBER OF CHANGES TO SECTION 404 OF THE CLEAN WATER ACT, INCLUDING BROADENING OF THE TYPES OF ACTIVITIES COVERED, PROVIDING FOR PLANNING ASSISTANCE TO STATES, AND ENSURING FEDERAL CONSISTENCY WITH APPROVED STATE PLANS, I WILL FOCUS ON THE QUESTION OF STATE ASSUMPTION.

ONLY ONE STATE HAS BEEN ABLE TO ASSUME RESPONSIBILITY FOR THE 404 PROGRAM OVER THE PAST 17 YEARS. CLEARLY, THE SYSTEM ISN'T WORKING.

WITHOUT CHANGES LIKE THE ONES I AM ABOUT TO DESCRIBE, MANY STATES OTHERWISE WILLING TO TAKE ON ADDITIONAL RESPONSIBILITY WILL CHOOSE NOT TO. WE WILL LOSE THE

OPPORTUNITY TO DEVELOP INTEGRATED PROTECTION PROGRAMS DESIGNED AROUND THE SPECIFIC WETLANDS TYPES AND THREATS FOUND IN EACH STATE, AND WE WILL LOSE AN OPPORTUNITY TO PROVIDE A CLEARER, MORE PREDICTABLE REGULATORY PATHWAY.

BRIEFLY, THERE ARE FOUR MAJOR HURDLES WHICH HAVE DISCOURAGED STATES FROM TAKING OVER 404. THE FORUM MADE SEVERAL RECOMMENDATIONS FOR HOW TO DEAL WITH THESE.

FIRST, CURRENT RULES PREVENT STATES FROM RECEIVING PERMITTING AUTHORITY OVER ALL WETLANDS WITHIN THEIR BORDERS. PERMITS FOR ACTIVITIES IN WETLANDS ADJACENT TO NAVIGABLE WATERWAYS MUST STILL BE ISSUED BY THE CORPS.

THEREFORE, THE FORUM RECOMMENDS ALLOWING DELEGATION OF ALL SECTION 404 RESPONSIBILITIES TO THE STATES, WITH THE CORPS RENDERING REVIEW AND APPROVAL OF PERMITS INVOLVING NAVIGATION AND DEFENSE. TO ENSURE APPROPRIATE CORPS REVIEW, IT MIGHT BE APPROPRIATE, AS A CONDITION OF DELEGATION, TO REQUIRE A STATE TO ENTER A MEMORANDUM OF UNDERSTANDING OR SIMILAR AGREEMENT, SPECIFYING PROCEDURES FOR IDENTIFYING SUCH ISSUES.

SECOND, UNLIKE MOST OTHER ENVIRONMENTAL PROGRAMS WHICH MAY BE DELEGATED, NO RESOURCES ARE PROVIDED TO STATES TO ASSIST IN PREPARING FOR OR OPERATING THE ASSUMED PROGRAM. TO CORRECT THIS DEFICIENCY, THE FORUM RECOMMENDS THAT THE FEDERAL GOVERNMENT SHOULD PROVIDE FINANCIAL AND TECHNICAL ASSISTANCE TO THE STATES TO HELP THEM PREPARE AND IMPLEMENT THE WETLANDS CONSERVATION PLANS AND TO CARRY OUT THEIR DELEGATED RESPONSIBILITIES.

THIRD, STATES ARE NOT NOW ABLE TO ASSUME AUTHORITY FOR PERMITTING IN ONE PORTION OF THEIR GEOGRAPHIC AREA. FOR EXAMPLE, MANY STATES HAVE REGULATORY PROGRAMS COVERING THEIR COASTAL WETLANDS, BUT NOT INLAND ONES. WHILE IMPORTANT BENEFITS MAY BE REALIZED BY CONSOLIDATING PERMITTING FOR THESE COASTAL WETLANDS UNDER STATE AUTHORITY, CURRENT RULES PREVENT PARTIAL DELEGATION. THE FORUM RECOMMENDED SOLVING THIS PROBLEM BY ALLOWING STATES TO ASSUME DISCRETE AND CLEARLY IDENTIFIABLE PORTIONS OF THE REGULATORY PROGRAM RATHER THAN REQUIRING THAT THE ENTIRE PROGRAM BE DELEGATED AT ONE TIME.

AND FINALLY, THE FORUM RECOMMENDED THAT FEDERAL ACTIONS BE REQUIRED TO CONFORM TO APPROVED STATE PLANS. THIS WOULD BE ACCOMPLISHED BY REQUIRING THAT FEDERAL ACTIONS BE SUBJECT TO A CONSISTENCY REVIEW, SIMILAR TO THE ONE MANDATED BY THE COASTAL ZONE MANAGEMENT ACT, IN STATES WITH APPROVED WETLANDS CONSERVATION PLANS.

DESPITE THE PROBLEMS ASSOCIATED WITH ASSUMPTION, NEW JERSEY IS CURRENTLY WORKING WITH THE EPA TO ASSUME RESPONSIBILITY FOR THE 404 PROGRAM. WE BELIEVE THAT OPERATION OF AN INTEGRATED PROGRAM PROVIDES IMPORTANT BENEFITS TO OUR

REGULATED COMMUNITY, AND WILL RESULT IN BETTER WETLANDS PROTECTION. HOWEVER, WE ALSO RECOGNIZE THAT WE ARE ACCEPTING SIGNIFICANT ADDITIONAL COSTS, BOTH IN TERMS OF PROGRAM COMPLEXITY AND FINANCIAL RESOURCES, AND THAT NOT ALL STATES CAN AFFORD THIS.

OUR ASSUMPTION PROCESS HAS NOT BEEN A SMOOTH ONE. WE INFORMALLY APPLIED FOR DELEGATION IN JULY, 1988, AND IT IS EXPECTED TO BE ANOTHER YEAR OR MORE BEFORE OUR DEPARTMENT OF ENVIRONMENTAL PROTECTION CAN TAKE CONTROL OF THE PROGRAM.

ALTHOUGH OUR OWN COASTAL AND FRESHWATER PROGRAMS PROVIDE MORE PROTECTION THAN SECTION 404, SEVERAL MINOR TECHNICAL CHANGES MAY BE NEEDED IN THE NEW JERSEY RULES TO MEET EPA'S REQUIREMENTS FOR DELEGATION. IN ADDITION, IT WILL BE NECESSARY TO CLARIFY OTHER PROVISIONS OF THE NEW JERSEY PROGRAM REGARDING PROTECTION OF WETLANDS IN TWO SPECIFIC GEOGRAPHIC AREAS OF THE STATE WHICH ARE GOVERNED BY REGIONAL PLANNING AGENCIES (THE HACKENSACK MEADOWLANDS AND THE PINELANDS). IT WILL TAKE APPROXIMATELY SIX MONTHS TO PROPOSE AND PROMULGATE THESE REGULATORY AMENDMENTS. FINALLY, AN ADDITIONAL SIX MONTHS IS ALLOWED FOR EPA REVIEW OF THE FORMAL APPLICATION.

THE FORUM WORKED LONG AND HARD, MR. CHAIRMAN, TO REACH A CONSENSUS ON THESE AND THE OTHER RECOMMENDATIONS YOU WILL HEAR ABOUT THIS MORNING. WE HAVE COME A LONG WAY SINCE THOSE FIRST MEETINGS MORE THAN 18 MONTHS AGO -- MUCH FURTHER THAN MANY THOUGHT POSSIBLE. BUT IT IS NOT ENOUGH TO SIMPLY CIRCULATE OUR REPORT. THE FORUM'S RECOMMENDATIONS MUST BE IMPLEMENTED, AND QUICKLY, IF WE ARE TO REVERSE THE UNACCEPTABLE LOSS OF THESE CRITICAL RESOURCES.

WE HAVE BEEN PLEASED TO SEE INCREASED ATTENTION TO WETLANDS PROTECTION SINCE THE FORUM PRESENTED ITS REPORT AND RECOMMENDATIONS LAST NOVEMBER.

- PRESIDENT BUSH ENDORSED THE NO OVERALL NET LOSS GOAL IN HIS BUDGET MESSAGE TO THE CONGRESS.
- THE ENVIRONMENTAL PROTECTION AGENCY HAS PREPARED A WETLANDS ACTION PLAN FOR RESPONDING TO THE FORUM'S RECOMMENDATIONS.
- IN FEBRUARY, THE NATIONAL GOVERNORS' ASSOCIATION ADOPTED A NATIONAL WETLANDS POLICY, PROPOSED BY GOVERNOR KEAN, WHICH ENCOMPASSED MANY OF THE FORUM'S RECOMMENDATIONS.
- AND IN MARCH, THE NATIONAL ASSOCIATION OF COUNTIES' ENERGY, ENVIRONMENT, AND LAND USE COMMITTEE ALSO APPROVED A RESOLUTION ENDORSING A NO OVERALL NET LOSS GOAL.

TAKEN TOGETHER, THESE ACTIONS PROVIDE A GOOD START FOR BUILDING A COORDINATED, EFFECTIVE, AND EFFICIENT WETLANDS PROTECTION PROGRAM.

BUT TODAY'S HEARING IS THE BEGINNING OF THE MOST CRITICAL STEP IN REALIZING OUR RECOMMENDATIONS. MANY OF THE STEPS THAT THE FORUM RECOMMENDED REQUIRE CONGRESSIONAL ACTION. THE FORUM EXPLICITLY NOTED THE IMPORTANCE OF AMENDING FEDERAL LAW TO PROVIDE IMPORTANT ELEMENTS OF A FRAMEWORK FOR IMPROVED WETLANDS PROTECTION.

ADOPTION OF THE NO-NET-LOSS GOAL IN FEDERAL LEGISLATION AS NATIONAL POLICY SHOULD BE A FIRST STEP. THIS GOAL WILL PROVIDE GUIDANCE FOR ALL WETLANDS POLICIES AND A YARDSTICK WITH WHICH TO MEASURE PROGRESS.

CLEARLY, THE CLEAN WATER ACT'S SECTION 404 MUST BE AMENDED, BOTH TO ENABLE STATES TO TAKE A MORE ACTIVE ROLE, AND TO PROVIDE FOR AN IMPROVED BASELINE FEDERAL PROGRAM.

ACTION BY CONGRESS ON THESE AND OTHER FORUM PROPOSALS IS CRITICAL, SINCE IT CAN PROVIDE THE LEADERSHIP, GUIDANCE, RESOURCES AND AUTHORITY FOR ACTIONS BY STATES, LOCAL GOVERNMENTS AND THE PRIVATE SECTOR. WE RECOGNIZE THAT THE COMPLEXITY OF WETLANDS ISSUES -- MATCHED ONLY BY THE COMPLEXITY OF CONGRESSIONAL JURISDICTION OVER THESE ISSUES -- MEANS THAT ACTION WILL TAKE TIME AND STATESMANSHIP. THAT IS ALL THE MORE REASON TO BEGIN AS SOON AS POSSIBLE.

MR. CHAIRMAN, WE THANK YOU AGAIN FOR HOLDING THESE HEARINGS AND URGE YOU TO ACT ON OUR PROPOSALS. WE PLEDGE NOT ONLY TO WORK WITH YOU AND OTHER COMMITTEES, BUT TO HELP ENSURE THAT STATES, LOCAL GOVERNMENTS, AND THE GENERAL PUBLIC ARE MADE AWARE OF THE CRITICAL ROLE THEY MAY PLAY IN WETLANDS PROTECTION

THANK YOU.

BRENDA S. DAVIS is the chief of policy and planning for Governor Kean of New Jersey. In that capacity, she is responsible for federal relations and long-range planning and policy development for the State. She manages the Office of Policy and Planning in Trenton, the New Jersey Washington Office, and the Governor's Hudson River Waterfront Development Office. Before assuming this position, Ms. Davis was director of legislative and regulatory affairs for Allied-Signal on federal health, safety, and environmental issues. She also worked as a principal in a Washington, D.C.-based public policy consulting firm where she specialized in infrastructure financing. In addition, she served in the New Jersey Department of Environmental Protection as special assistant to the commissioner and she worked for four years on the staff of the U.S. Senate Committee on the Budget where she was the director for natural resources. Ms. Davis received a B.A. in biology from the University of Denver and a Ph.D. in zoology from the University of California, Berkeley. She was a post-doctoral fellow in environmental sciences at the Smithsonian Institution.

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STATEMENT OF
GAIL BINGHAM, VICE PRESIDENT
THE CONSERVATION FOUNDATION
WASHINGTON, D.C.

Before the
Water Resources Subcommittee,
Committee on Public Works and Transportation,
United States House of Representatives

"The Status of the Nation's Wetlands and
Laws Related Thereto"

April 12, 1989

Mr. Chairman and Members of the Subcommittee:

I am Gail Bingham, Vice President for The Conservation Foundation, a non-profit environmental policy research organization. The Conservation Foundation convened and facilitated the National Wetlands Policy Forum. I serve as staff director to the Forum and was personally involved in the project from its conception.

Let me begin by expressing my appreciation to the subcommittee for the opportunity to talk with you this morning about the Wetlands Forum. I would like to cover three areas in my presentation: first, I'll give you some background on the Forum. Next, I'll outline the recommendations the Forum agreed upon. And lastly, I'll describe our plans for implementing those recommendations.

The National Wetlands Policy Forum began about two years ago, when Lee Thomas, then Administrator of the Environmental Protection Agency, approached The Conservation Foundation to convene a dialogue on how EPA and the nation could better manage and protect its valuable wetlands resources.

The time is right to move beyond the polarization of the last two decades toward a broader consensus. Wetlands management has become, for all interests involved, a major frustration. As a nation, we no longer view wetlands as wastelands, but our nation's current wetlands policies are ineffective both in protecting these precious resources and in encouraging compatible uses. In short, current programs are too cumbersome and the responsibilities too diffuse to guarantee anyone -- landowners, the regulated community, conservationists, or even the regulators themselves -- consistency, predictability, timeliness, or effectiveness.

Section 404 of the Clean Water Act, passed in 1972, is the only federal wetlands regulatory program. And it deals chiefly with only one aspect of the problem -- filling wetlands for development purposes -- which actually contributes to only a small percentage of overall wetlands losses in this country. A number of other special-purpose regulatory programs exist. Yet each of these typically deals with only a fragment of the issue.

Most, if not all, coastal states have coastal wetlands protection programs; at least fourteen states also have comprehensive wetlands protection laws. But there often is little effort to coordinate the policies or implementation of the different programs at either the federal or state level. Landowners seeking to determine the answers to seemingly simple questions such as whether a permit is required for activities on their land could be faced with considerable confusion and delay. Moreover, some government programs themselves directly or indirectly continue to cause wetlands losses.

This confusing patchwork of programs has generated substantial frustration and uncertainty, and often imposed significant costs on wetlands owners and users. It is a system in which armies of lawyers may spend months, perhaps even years, battling over the fate of a couple dozen acres, while hundreds of thousands of acres are disappearing virtually unnoticed.

Lee Thomas was right: the nation needs to take a careful, comprehensive look at the issues. This then was the agenda of the National Wetlands Policy Forum: to develop sound, broadly supported recommendations for improving federal, state and local wetlands policy.

On November 15, 1988, the Forum released its report and recommendations at a standing-room-only press conference in Washington, D.C. The report, entitled "Protecting America's Wetlands: An Action Agenda," was the product of a year-long, consensus-building effort. Participating as members of the Forum were three governors -- Thomas H. Kean of New Jersey as chairman, Carroll Campbell of South Carolina and Booth Gardner of Washington; the president of the Wyoming State Senate; the heads of state agencies from California and Alaska; a town supervisor from New York; four corporate CEO's -- two from development companies and one each from the timber and petroleum industries; the heads of four environmental groups -- Audubon, National Wildlife Federation, Environmental Defense Fund, and Nature Conservancy; three farmers -- one each from Louisiana, Illinois and the Prairie Potholes; and two distinguished academics.

These individuals, representing interests that have often been at odds over wetlands policy worked together to reach consensus on a comprehensive set of recommendations.

In addition to the Forum members I mentioned, Lee Thomas and the assistant secretaries of the four other federal agencies involved in wetlands protection and management -- the U.S. Army Corps of Engineers, the Department of the Interior, the Department of Agriculture, and the Department of Commerce

National Oceanic and Atmospheric Administration -- participated as ex-officio members.

Forum members were assisted by their own personal staff representatives, by The Conservation Foundation staff, and by a group of nationally-renowned science and policy advisors. The Forum met four times between July 1987 and July 1988, with five additional meetings of the staff representatives. To gather input from a larger group of interested organizations and individuals, in May of 1988, the Forum also sponsored public workshops in Washington State, New Jersey, and Louisiana. More than 600 people attended these meetings.

Let me take a minute to clarify the role of The Conservation Foundation in the wetlands forum process. The Conservation Foundation convened the Forum. We provided staff support; for example, we prepared background and options papers. Our role has been to facilitate the dialogue and to help those involved build a consensus that meets the diverse needs of all interests, rather than to advocate a single point of view.

The Forum's final report includes over 100 recommendations for action by federal, state and local governments and the private sector. The recommendations cover both promoting better private and public stewardship through nonregulatory approaches and improving the effectiveness and efficiency of our regulatory programs. The scope of the Forum's recommendations reflects the fact that many wetlands losses occur outside the scope of current regulatory programs. Also, by covering a broad range of issues, the Forum was able to enlist the participation and support of a variety of diverse interests -- as different interests clearly are concerned about different problems.

The Forum's recommendations are organized as an eight-point plan:

1. Establish a national goal to guide all wetlands protection and management programs;
2. Emphasize the importance of planning for wetlands protection and management;
3. Increase incentives for the wise management and protection of wetlands in private ownership;
4. Modify wetlands regulatory programs to provide more effective protection while reducing unnecessary frustrations and delays imposed on wetlands owners;
5. Provide improved government leadership for the nation's wetlands protection efforts;
6. Improve the quantity and quality of information about wetlands available;
7. Expand efforts to restore and create wetlands to enhance and increase the nation's wetlands inventory; and

8. Ensure adequate funding and other resources necessary to implement an effective national wetlands protection and management program.

I or the other panel members would be happy to respond to questions if you would like more detail about the Forum's recommendations, however, in the interest of time, I would like to turn now to our implementation efforts, in which I think you will be interested.

The members of the National Wetlands Policy Forum firmly believe the nation cannot afford to allow the present situation -- with its inadequate wetlands protection, its unacceptable delays and confusion, its costs and frustrations -- to continue. We recognize that wetlands protection is only one of many issues the nation is facing, but we believe that it clearly merits a higher priority than it has received in the past.

Thus, members of the Forum are working actively to encourage the implementation of its recommendations. Delay means continued losses -- lost public benefits as wetlands continue to be converted, lost economic energy stifled by inefficiencies in the current regulatory programs.

Many recommendations can be adopted immediately by federal and state agencies responsible for implementing the existing protection and management programs. We recommend that they do so and applaud such steps as the recent agreement on consistent field procedures for defining and delineating wetlands for regulatory purposes, which was announced in January of this year by the U.S. Army Corps of Engineers, the Environmental Protection Agency, Fish and Wildlife Service and Soil Conservation Service. We were pleased to have a role in helping facilitate that agreement.

To assure that the Forum's report does not become just another report on a shelf, its members recommend several actions. Specifically:

- The President should amend and reissue the existing Wetlands Executive Order to emphasize the importance of wetlands protection and to promote the adoption of the Forum's recommendations by all federal agencies.
- Congress should enact legislation that will, among other recommendations: establish the recommended goal as national policy, encourage delegation of federal wetlands regulatory programs to qualified states, establish such initiatives as Wetlands Preservation Trusts and an Agricultural Wetlands Reserve Program, and require the President to report to Congress every five years on the nation's success in achieving the national wetlands protection goal.

- And, Congress should provide adequate funding for existing programs and new initiatives alike.

To see this work through, the Forum has established an implementation subcommittee to work on getting its recommendations adopted. Members of the subcommittee are engaged in disseminating information to their constituencies and the public about the Forum's recommendations. They also have formed working groups to discuss specific issues in five areas: federal legislation, appropriations, the revised federal executive order, the current federal regulatory program, and initiatives at the state level. The Forum as a whole will meet again this summer to review progress toward implementation of its recommendations.

Specifically, the implementation subcommittee is working on recommendations for a revised executive order on wetlands in anticipation of the formation of an interagency working group under the Domestic Policy Council as described in President Bush's budget message to Conçess, in which he announced his intention to form such a group to redraft the existing executive order on wetlands. The thrust of our recommendations will be to provide direction regarding implementation of the Forum's recommended national goal. We nope to have this completed within a few weeks.

Also, members of the Forum hope to be able to provide Congress with recommendations concerning existing wetlands programs that need increased funding. In some cases, these increased costs would be offset by savings in other government programs. In other cases, implementation of the Forum's recommendations would reduce the costs imposed on the private sector or would provide important public benefits.

Perhaps of most interest to this Subcommittee is our work on a legislative proposal. At least twenty of the Forum's recommendations require legislative action; others might benefit from incorporation into legislation. Some of the recommendations are sufficiently specific to be incorporated into legislative language; others, such as the recommendation to delegate the Section 404 regulatory program to the states, raise additional questions for discussion -- in this case what constitutes adequate authority and capability for delegation of the 404 program.

As you can imagine, with the diverse interests represented on the Forum, this process requires the same thoughtful negotiation and consensus-building effort that went into the Forum's initial recommendations. Thus, it is taking time. But we believe it is time well spent. A legislative proposal that reflects the consensus of the Forum would be of great value. Although it is difficult to predict, our best estimate for completion of the draft proposal is mid-summer.

That briefly summarizes what the Forum has tried to do, our key recommendations, and our implementation plans. When we started many members were uncertain about what we could achieve. Many, frankly, were skeptical of any agreement.

But by the time the report was finished, everyone involved was surprised and pleased at how much progress they had made and at the extent and usefulness of the recommendations. While each and every recommendation may not be ideal from each member's perspective, the Forum believes that the entire set of recommendations, taken as a whole, will significantly improve the efficiency and effectiveness of the nation's efforts to protect and manage its wetlands. Thus, it is important to continue to work toward the balanced implementation of recommendations of concern to all interests during the process of implementating these recommendations.

The 101st Congress offers an unusual opportunity for a major initiative to improve the management of the nation's wetlands resources. One reason is the emerging consensus among diverse interests about what should be done. We look forward to working with this Subcommittee, and thank you again for your time and interest.

GAIL BINGHAM, is a vice president of The Conservation Foundation and directs the Foundation's program on Environmental Dispute Resolution. She is a mediator and also conducts research. Author of the 1986 book Resolving Environmental Disputes: A Decade of Experience, she is also the coeditor of Resolve, a newsletter on training in negotiation. She serves on the Board of Directors of the Society of Professionals in Dispute Resolution and of Western Network in Santa Fe, New Mexico, and is on the advisory committee to the Processes in Negotiation Program, sponsored by the International Institute for Applied Systems Analysis. Formerly, Gail was a senior associate at RESOLVE, Center for Environmental Conflict Resolution (which became part of The Conservation Foundation in 1981). She has held planning positions in India and in local government in Washington State. Gail attended Stanford University and graduated from Huxley College of Environmental Studies. She did her graduate work in environmental planning at the University of California, Berkeley.

The Conservation Foundation

COPIES OF VISUAL AIDS

USED BY NATIONAL WETLANDS POLICY FORUM

AT

HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE
WATER RESOURCES SUBCOMMITTEE
HEARING

"THE STATUS OF THE NATION'S WETLANDS AND LAWS RELATED THERETO"

April 12, 1989

1250 Twenty-Fourth Street, NW Washington, DC 20037 USA 202/293-4800 Telex: 64505 PANDA
Affiliated with World Wildlife Fund

AN ACTION AGENDA

States

- ~ Undertake State Wetland Conservation Plans
- ~ Enact Strong Legislation
- ~ Increase Acquisition

Congress

- ~ Establish Goal
- ~ Simplify 404 Delegation
- ~ Enact Enabling Legislation

Federal Agencies

- ~ Improve Coordination
- ~ Expand Resources
- ~ Improve Research and Information

Local Governments

- ~ Improve Planning
- ~ Use Land-Use Controls

Private and Nonprofits

- ~ Protect Privately Owned Wetlands
- ~ Cooperate with Government Efforts

A GOAL

FOR NATIONAL WETLANDS POLICY

Interim Goal:

No overall net loss of the nation's remaining wetland base.

Long-Term Goal:

To increase the quantity and quality of the nation's wetlands resource base.

WETLANDS

A VALUABLE NATURAL RESOURCE

Major Wetlands Functions:

- Flood Control
- Habitat for Waterfowl and Wildlife Including Endangered Species
- Water Quality Maintenance
- Water Supply
- Recreation

STATEMENT OF
PETER BERLE, PRESIDENT
NATIONAL AUDUBON SOCIETY
NEW YORK, NY

Before the
Water Resources Subcommittee,
Committee on Public Works and Transportation
United States House of Representatives

"The Status of the Nation's Wetlands and Laws Related Thereto"

April 12, 1989

Mr. Chairman and Members of the Subcommittee:

My name is Peter Berle. I am President of the National Audubon Society. Audubon is one of this country's oldest and largest conservation organizations with over one half million members around the nation and in several foreign countries. I appreciate the opportunity to appear before you today to discuss the recommendations of the National Wetlands Policy Forum, of which I am a member. I am extremely encouraged by this Committee's interest in wetlands protection and by your intention to hold a series of hearings on this critically important topic.

Audubon has been and continues to be actively involved in securing protection of our nation's wetland resources. We manage over 250,000 acres of wetlands as part of our nationwide sanctuary system. We conduct research on a variety of wetland-related issues, including research on wetland dependent species like the wood stork. We offer educational and television programs designed to increase public awareness of the value of wetlands, and have made preservation and restoration of wetlands one of five high priority campaigns within Audubon, bringing to bear on the issue the full range of our resources. Together with other conservation organizations, we have been active participants in various legislative, administrative and litigation initiatives concerning the scope, effectiveness and implementation of the wetlands permitting provisions of the Clean Water Act and the Swampbuster provisions of the 1985 Food Security Act.

We have committed considerable resources to the protection and enhancement of wetlands because of their critical ecological importance. Wetlands are considered by many to be the living resource nurseries of the nation. They are areas of extremely high productivity, producing acre for acre five times the biomass of a corn field for a wide variety of species dependent upon them for their survival. Wetlands provide spawning grounds and habitat for 90% of the annual United States commercial fish catch and support complex food chains. Wetlands have been called "duck factories" for the valuable role they play in providing habitat and food for migratory waterfowl. A third of threatened or endangered species are dependent on wetlands for their survival.

Because wetlands provide essential habitat, they increase the economic and recreational benefits of those areas through activities such as hunting and fishing. Wetlands provide other valuable economic functions as well. They help prevent soil erosion, and in so doing save millions of dollars annually. Wetlands recharge underground aquifers and provide a natural means of flood control and water purification by retaining water during periods of peak runoff and then releasing that water gradually, absorbing nutrients in the process. Wetlands remove heavy metals from water by trapping them in sediment, and reduce acidity by buffering acid mine drainage seeping from active or abandoned coal mine sites.

Despite their enormous value, as a nation we are losing wetlands at an unacceptably high rate. This is so because wetlands are often viewed as prime development areas. They frequently are the only large, flat, open, centrally located parcels of available lands near urban centers, overlay energy or mineral deposits or offer the only readily available land to farmers who want to expand their cropped acreage. It is commonly thought that at least half of the original wetland base in this country has been converted to other uses. The result is that states like California have less than 10% of their original wetland base, Iowa less than 5%. Louisiana is losing 50 square miles of wetlands a year due in large part to channelization and flood control activities. Even under existing regulatory programs, we are currently losing over 450,000 acres per year from manmade or natural causes.

Clearly, something has to be done to reverse this trend. This concern is what led Audubon to participate in the National Wetlands Policy Forum and why I personally devoted considerable time to this effort.

Audubon supports the Forum's recommendations. We find it both remarkable and heartening that such a disparate array of interests could support these far-reaching suggestions for change in our nation's wetlands policies. However, let me add, that from our perspective the Forum's report is only the first step in improving wetlands protection in this country. Even if all the Forum's recommendations were adopted in legislation or administrative initiatives, we believe that more must be done to conserve, enhance and restore the resource to the point at which we can stop being concerned.

I would like to direct my comments to three particular parts of the Forum's Report: the recommendations for a strong, national goal, strengthening the federal regulatory program, and the need for wetlands restoration and research.

From our very first meeting, Forum members felt strongly that a major problem with current wetland policy is that there is no clearly articulated national goal to create a focus and direction for national wetlands policy. The absence of such a goal has allowed contradictory policies to develop at the federal level, for example using federal revenues to pay for wetlands' acquisition while at the same time subsidizing their destruction.

Despite the different perspectives of the various Forum members, after reviewing the uncontradicted data about the continuing loss and degradation of wetlands, we unanimously supported a short term goal of "no overall net loss of wetlands," and a longer term goal of increasing the quantity and quality of the nation's wetland resource base. It is not enough simply to reach equilibrium in the rate of wetland loss, as the first part of the goal statement implies, but we must begin to make a concerted effort at all levels of government to rebuild our wetland base.

The concept of no overall net loss clearly must be further developed as we move into implementation of the Forum's recommendations. The goal statement is a critical yardstick against which to measure the success of state and federal wetlands protection programs. A sophisticated methodology must be developed to account for wetlands losses and gains not only on an acre by acre basis, but according to some measure of functional equivalency.

As the Forum notes, the no overall net loss goal should not necessarily be applied on a permit by permit basis, nor should it be based solely on a national average of wetlands loss. However, the phrase must have sufficient content to guide regulatory agencies in their activities, so that when individual permitting decisions are accumulated, no overall net loss of wetlands is achieved within the regulatory program. This will mean that some of the "mitigation" allowed in the past, such as acquisition of existing wetlands, would no longer be sufficient. According to the Forum's recommendations, such compensatory wetlands would have to be newly created or restored acreage.

For obvious reasons, as a conservationist, I am extremely interested in improving the effectiveness of existing programs. Without question, the law as currently written and implemented is not stopping the high rate of wetlands conversions in this country. One reason existing regulatory programs are not more effective is because they do not cover all activities which adversely effect wetlands, such as changes to their hydrological regime, chemical contamination, excavation, and removal of wetland vegetation. The current 404 program must be amended to include these activities.

Current mitigation policies are not assuring that avoidable wetland losses do not occur, and instead are offering compensation for avoidable wetland losses as mitigation for converted acreage. Pursuing such a mitigation strategy means we will never achieve a "no overall net loss goal" let alone reverse the trend of wetland losses. For this reason, the Forum recommended that a policy of strict sequencing of mitigation must be adopted by both federal and state regulatory agencies so that wetland conversions are first avoided and then minimized before their loss is compensated for.

Further, federal regulatory agencies do not do a good enough job of monitoring and enforcing mitigation conditions on permits, so even when compensatory acreage is made the condition precedent of a particular wetland fill, there is no assurance that the proffered compensatory acreage will ever be restored or created. Therefore, the Forum recommended that permits, particularly permit mitigation conditions, be closely monitored and enforced, and that resources be committed to these activities. While two recently concluded Memoranda of Understanding between the federal regulatory agencies on jurisdiction and enforcement may alleviate some of the current enforcement problems at the federal level, the Forum recognized the critical role played by the Justice Department in enforcement of illegal wetlands activities, and recommended that the Department devote increased resources as well to prosecution of wetlands violators.

One of the Forum's insights was that, even if we called an immediate halt to every current activity affecting wetlands, wetland losses would continue due to natural change and as a result of past human activities. To achieve the Forum's dual goal, and to allow for future public needs, the nation is going to have to restore some wetlands that have already been altered. The Forum recommended several initiatives in this area, including a cooperative public/private Wetlands Restoration Initiative to restore wetlands on federally owned lands and in places affected by federal projects. We also recommended that the mission statements of various federal agencies, such as the Bureau of Reclamation, be changed to include wetlands restoration and creation.

To carry out these restoration initiatives will require significantly more scientific information about how these complex and ecologically sensitive systems function. No management and protection system can be better than the information upon which it is based. This is particularly true in the case of wetlands. We need better information about how these natural systems operate, how they perform their diverse functions, how to measure these functions, and how they are affected by various activities.

The time for action to protect wetlands is now; in fact, it has been tragically overdue. Momentum to conserve these resources is growing, as evidenced by the response to the Forum's Report and recommendations. We, at National Audubon, stand ready to work with other Forum members and members of your Committee to implement the Forum's recommendations to improve wetlands protection. Thank you.

STATEMENT OF
FRED WORSTELL, VICE PRESIDENT FOR ENGINEERING
MELVIN SIMON AND ASSOCIATES, INC.

Before the
Water Resources Subcommittee,
Committee on Public Works and Transportation,
United States House of Representatives

"The Status of the Nation's Wetlands and Laws Related Thereto"

April 12, 1989

Mr. Chairman and Members of the Subcommittee:

I am Fred Worstell, Vice President for Engineering for Melvin Simon Associates, Inc., based in Indianapolis, Indiana. I appreciate the opportunity to appear before you this morning. Melvin Simon and Associates is one of the largest retail developers in the country. We have projects in over 30 states. Melvin Simon served as a member of the National Wetlands Policy Forum and I have served as his representative throughout the process.

I am not here as a spokesman of the real estate industry but provide, as a member of that industry, our outlook on the impact of the wetlands regulatory process on real estate development. I would like to address several issues: why we were a part of the Forum, how the Forum's recommendations address our concerns about wetlands policy, and the roles envisioned for the private sector in implementing the Forum's recommendations.

We participated in the Forum because we believe strongly that development must become more environmentally sensitive. We believe that development projects can be planned to better protect important natural resources such as wetlands.

At the same time, the increasing scope of land use regulation at the federal and state levels has become a major problem for the private sector; increasing, we believe, unnecessarily the cost of development--a cost ultimately being borne by the end user--the public. Wetlands regulation has been an area of increasing concern. The inconsistency of policy interpretation between agencies at both the state and federal levels has made the impact of the regulations on development proposals difficult to predict.

Both Mr. Simon and I lack the scientific training to adequately assess the seriousness of the ongoing wetlands loss in this country. What is clear is that it is irresponsible to continue the rate of conversions and fail to develop a reliable information base with which the environmental and societal impacts can be evaluated. Thus, we support the no overall net loss goal as stated in the Forum report.

The management of our wetlands resources will be a particularly vexing and difficult effort. The geographic variability and wide functional range of wetlands cause a multitude of environmental and geopolitical impacts. The complexity of the wetlands resources and the lack of comprehensive scope of the current regulatory process has produced inefficient wetlands protection. This is clearly demonstrated by its mixed success record. Any program that attempts to regulate this resource on a piecemeal basis rather than focusing on the larger national, regional, and local characteristics of the resource will, we believe, be similarly less than successful.

The Forum provided an opportunity to address these concerns and to devise approaches--both regulatory and nonregulatory--to improving management of our wetlands resources. As a comprehensive program, they will increase the effectiveness of the protection afforded wetlands while removing inefficiency in regulation and spreading the burden equitably between the public and private sectors across the country.

The Forum strongly supports advanced planning for wetlands protection and management. Together with better mapping of the resource and information about their functional values, planning can identify areas that are more and less suitable for development. Planning can also identify promising sites for restoration of degraded wetlands to permit some continued conversions while helping achieve the no overall net loss goal. We believe that the Forum's recommendations for local- and state-initiated planning, with coordination by federal agencies, will provide the type of coordinated regulatory effort that will facilitate, rather than hinder, responsible development.

The Forum's recommendations for flexibility in local zoning also will help developers avoid or minimize impacts to wetland areas.

The Forum's recommendation that the Section 404 program be delegated to states that have the authority and capability to carry it out will serve to reduce the number of agencies involved in each permit decision and help to achieve consistency and predictability in regulatory decisions.

The Forum supported a wide variety of roles for the private sector in wetland protection and management. The Forum did not assume that every problem could or should be solved by government regulation. Incentive programs are proposed to encourage wise use and protection of the millions of acres of wetlands in private ownership.

Most importantly the Forum recommends public/private partnerships in such vital areas as research on wetlands restoration and creation, establishment and management of mitigation banks, and action toward restoring wetland systems that are already degraded.

The strength of the Forum's recommendations is in their breadth and cohesiveness. The recommendations are aimed at government at all levels and at the private sector. The recommendations were developed as a package that recognized the complexity of the issue.

For what I believe are important societal needs man has and, as is recognized in the Forum's goal, will continue to have conversion of wetland areas to support growth of industry and population.

In the context of the Forum goal, the challenge before us is to begin to explore alternative regulatory models that will consider the competing needs of our society by providing a better, more efficient means of balancing resource conversions.

Regulatory programs that are reactive in nature will continue to be unequal to the tasks of protecting such a complex resource as wetlands. Programs which are inefficient in the utilization of financial and human resources will exert a drain on the nation's energies.

Indeed the need for and shortage of capable technicians to administer and address the wide range of current regulatory programs is a continuing governmental and private sector problem.

Therefore, we urge the committee to act quickly to consider comprehensive legislation based upon the Forum's entire package of recommendations.

All levels of government are facing tight budgetary constraints and must move cautiously on recommendations that increase expenditures. In the case of wetland resource management there is a need to improve the nation's "return on investment." We believe the Forum program represents this improvement.

FRED WORSTELL is Vice President for Engineering for Melvin Simon Associates, Inc., an Indianapolis-based real-estate developer. During his six-year tenure with the firm, he has devoted the major portion of his time to development of Newport, a major mixed-use project on 300 acres along the Hudson waterfront in Jersey City, New Jersey. He was responsible for coordinating Newport's site plan development and for the extensive environmental impact statement required for the project. Throughout the ten-year development process, Mr. Worstell has had on-going responsibility for the site work design and for coordinating 20 permits from federal, state, and local regulatory agencies. Mr. Worstell graduated from Duke University with a degree in civil engineering.

THE STATUS OF THE NATION'S WETLANDS AND LEGISLATION RELATED THERETO

FRIDAY, APRIL 14, 1989

House of Representatives,
Subcommittee on Water Resources,
Committee on Public Works and Transportation,
St. Cloud, MN.

The subcommittee met, pursuant to notice, at 9:40 a.m., Council Chambers, City Hall, 400 Second Street South, St. Cloud, Minnesota, Hon. Henry J. Nowak (Chairman of The Subcommittee) presiding.

Present. Representatives Nowak, Stangeland and Lightfoot.

Mr. Nowak. The Committee on Water Resources will come to order.

We had a bright and early ride in a helicopter, which we will describe.

Today, the Subcommittee on Water Resources meets to continue its review of our Nation's wetlands and laws related thereto.

We began the review this past Wednesday when we received testimony from the Corps of Engineers and the Environmental Protection Agency and representatives of the National Wetlands Policy Forum of the Conservation Foundation.

Today, we continue with the review of wetlands issues related to agriculture and prairie potholes, particularly the maintenance of agricultural drainage ditches.

The federal regulatory program related to wetlands is contained in Section 404 of the Federal Water Pollution Control Act. That law requires that any person who discharges dredged or fill material into water of the United States must have a permit from the Secretary of the Army.

Under the Section 404 program, the Environmental Protection Agency develops guidelines for the issuance of permits and has authority to review permits.

Section 404 applies to waters of the United States which includes wetlands, such as swamps, marshes, bogs and even areas which often appear as dry, land that consists of soil saturated by surface or ground water sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions.

Although Section 404 is broad in its application, Subsection (F) includes several specific activities which are not prohibited or regulated by Section 404, unless the activity's purpose is to bring an area of navigable water into a new use or where the circulation or flow of the water may be impaired or the reach of the waters reduced.

The exceptions outlined in Subsection (F) are a primary focus of this hearing, particularly the maintenance of drainage ditches.

In addition, we expect to receive testimony concerning the prairie potholes and wetlands issues in the Midwest.

Earlier today, the subcommittee viewed a portion of the extensive agricultural drainage system in the area. The testimony will further develop the information available to the subcommittee as we consider wetlands issues.

We will receive testimony from local individuals, state officials and federal resource and regulatory agencies.

Before we begin with our first witness, I want to mention that the subcommittee is here at the invitation of Arlan Stangeland, and I might mention this is really the first opening of our field trips throughout the country on this issue, and I think it was most appropriate that Arlan arranged and brought us here on this trip. He is, of course, the ranking Republican member of the subcommittee. He has represented the 7th District of Minnesota since his election in February of 1977 with great distinction.

He has worked tirelessly to ensure that issues important to his constituents, particularly related to water resources, are brought to the Congress' attention and that they get resolved, and at this time, I would like to yield to Congressman Stangeland for his opening remarks.

Mr. STANGELAND. Thank you very much, Chairman Nowak.

Let me say it is a pleasure to invite you and now to welcome you to the 7th Congressional District.

I also want to welcome Jim Ross Lightfoot from Iowa, another distinguished member of our subcommittee, for coming up here and helping us open these hearings.

I have quite an extensive prepared statement, Mr. Chairman, but in the essence of time and because we are going to be on a tight schedule, I am not going to go through all of it.

I think we should point out, and I am appreciative that this is our first field hearing, probably nowhere in the country do we have a greater conflict between wetlands and agriculture than we do from this area here in St. Cloud going west and north up into the West Central Prairie Pothole region of Minnesota and the Prairie Pothole region of North Dakota.

Within the last 80 to 90 years, extensive amounts of drainage has been done, farmers are farming that land, and they ought to have a right to farm that land. Yet, the President in his campaign and now in office has talked about a no net loss of wetland acreage for the future. Wildlife groups are very strong in that regard, believing that as well, but I think even we in agriculture as farmers believe that we ought to have no more net loss of acreage, that we have lost too much wetlands already.

Wetlands do more than just breed ducks. They help clean surface waters, clean pollutants and contaminants from getting into the aquifer. Wetlands serve many, many purposes beyond just duck habitat or wildlife habitat, and I think it is safe to say that the vast majority of farmers are conservationists, and the vast majority of farmers believe in wildlife enhancement programs.

Part of the problem that we have is that under the current system of laws, too often we can end up with a situation where we have a taking of property, a denial of a farmer to farm his land that he has been farming in the past, just through the quirk of the laws that do not allow the proper maintenance of ditches.

You know, we do not have to choose between ducks and ditches. I think we can keep both. It is just determining what is fair and reasonable. I think we have to establish or we have to respect the property owner's established right to maintain and repair ditches, but we should balance the need for food production and development with the need to preserve wetlands, and it is only reasonable.

Mr. Chairman, I hope the witnesses will focus on some of the following issues and questions. How can the Corps prohibit a farmer from maintaining his or her ditch; that is, returning it to its original configuration and capacity. What is the current test for identifying re-established or re-emerged wetlands. How does the Corps apply its so-called dual 51 percent rule. How long does the Corps take to determine if a drainage ditch exemption applies. How much does a Section 404 permit application cost the applicant and how long does it take to get? How can the Corps improve this situation. How many times has the St. Paul District granted drainage ditch maintenance exemptions and how many denials.

How costly is it to avoid Section 404 jurisdiction by hauling spoil material to an upland site rather than to side cast the material into a wetland, and does this approach lead to not only out-of-pocket costs but also environmental costs due to increased soil erosion and water quality degradation.

How are the clean water and swamp buster provisions being coordinated, and how can this situation be improved, and, finally, what is the state doing to complement or improve upon the Corps' and EPA's Section 404 program.

I look forward to today's testimony. I look forward to the people from the local area explaining to you and to the staff the problems and the concerns they have with the current administration of our drainage program, our 404 program, and the conflict between wildlife and agricultural practices.

I believe that through hearings like this, we can come—reasonable people can come to some reasonable consensus. We just had the Conservation Federatión's report issued to us the other day in committee, and Ducks Unlimited is going to be looking at a national water fowl management plan for the North American continent water fowl management plan.

All these have to be watched very carefully, and agriculture, so important to our economy, has to play a major role in whatever comes out in order that we be eminently fair and allow farmers to farm their land on one hand, but, on the other hand, not deplete what is a natural resource and that natural resource are the wetlands.

With that, Mr. Chairman, I thank you very much.

[Mr. Stangeland's prepared statement follows:]

(1) p. 8

STATEMENT OF
CONGRESSMAN ARLAN STANGELAND
WETLANDS HEARING
ST. CLOUD, MINNESOTA
APRIL 14, 1989

THANK YOU, MR. CHAIRMAN. I APPRECIATE YOUR RESPONSIVENESS TO MY REQUEST FOR A DETAILED HEARING IN ST. CLOUD ON WETLANDS' PROGRAMS, PERMITS, AND AGRICULTURAL DRAINAGE DITCH POLICIES. LET ME ALSO THANK CONGRESSMAN JIM LIGHTFOOT, A DISTINGUISHED MEMBER OF OUR SUBCOMMITTEE, FOR ATTENDING. AND, I WANT TO WELCOME OUR WITNESSES WHO REPRESENT A BROAD RANGE OF AGENCIES AND RESPONSIBILITIES.

LIKE MOST MINNESOTANS, I HAVE A STRONG INTEREST IN WETLANDS PROTECTION AND THE CLEAN WATER ACT'S SECTION 404 PROGRAM. FRESH WATER WETLANDS, SUCH AS THOSE IN THE PRAIRIE POTHOLE REGION, ARE EXTREMELY IMPORTANT TO OUR ENVIRONMENT, OUR ECONOMY, AND OUR WAY OF LIFE. WE RECOGNIZE THAT THESE UNIQUE AREAS WHERE LAND AND WATER MEET ARE VALUABLE NATURAL RESOURCES. THEY HELP IMPROVE WATER QUALITY AND FLOOD CONTROL, PROVIDE FISH AND WILDLIFE HABITAT, AND SUPPORT FISHING AND HUNTING ACTIVITIES. NO ONE HERE QUESTIONS THE NEED TO PREVENT UNNECESSARY OR ENVIRONMENTALLY DESTRUCTIVE NEW DRAINAGE. IN MANY WAYS, WE ARE ALL STRIVING TO MEET THE GOAL OF "NO NET LOSS OF WETLANDS."

FEDERAL LEGISLATION SUCH AS THE CLEAN WATER ACT, THE WATER BANK PROGRAM, AND THE DUCK STAMP PROGRAM CONTRIBUTE TO THE WETLANDS PROTECTION EFFORT. STATE LAWS, SUCH AS THE PROTECTED WATERS AND WETLANDS PERMITTING PROGRAM, ALSO ADDRESS THIS IMPORTANT NATURAL RESOURCE.

THE EXISTING REGULATORY FRAMEWORK, HOWEVER, HAS BEEN THE FOCUS OF EXTENSIVE DEBATE AND -- I MIGHT ADD -- JUSTIFIED CRITICISM. BOTH THE REGULATED COMMUNITY AND ENVIRONMENTAL GROUPS HAVE ATTACKED THE CORPS AND EPA FOR THEIR IMPLEMENTATION OF THE 404 PROGRAM. CONCERNS INCLUDE THE PROGRAM'S COMPLEXITY, THE BROAD DEFINITION OF WETLANDS, THE INCONSISTENCY AMONG AGENCIES, THE LENGTHY PERMIT DELAYS, AND THE INADEQUATE OR UNFAIR POLICIES ON EXEMPTIONS AND ENFORCEMENT.

I HAVE FREQUENTLY EXPRESSED CONCERNS ABOUT THE SECTION 404 AND "SWAMPBUSTER" PROGRAMS. I HAVE MET WITH THE CORPS' ST. PAUL DISTRICT ENGINEER, HIS PREDECESSORS, AS WELL AS THE HEADS OF EPA AND THE CORPS IN WASHINGTON; AND YET, PROBLEMS REMAIN.

ADMITTEDLY, PART OF THE PROBLEM INVOLVES THE NUMBER OF PLAYERS WITH DIFFERENT REGULATORY MISSIONS AND OBJECTIVES. BUT ALSO, IN THEIR EFFORT TO PROTECT WETLANDS, FEDERAL AND STATE ENVIRONMENTAL REGULATORS ARE CHALLENGING ESTABLISHED PROPERTY RIGHTS, CONSTITUTIONAL GUARANTEES, AND BASIC NOTIONS OF FAIRNESS. IN THEIR ENTHUSIASM TO ARREST WETLAND DESTRUCTION, REGULATORS HAVE BEGUN TO OVERLOOK PRIVATE PROPERTY RIGHTS. WE NEED TO RESTORE THE BALANCE CONTAINED IN THE CONSTITUTION AND

RENEW THE COMMITMENT TO PROPERTY RIGHTS. THIS DOES NOT MEAN WE NEED TO DIMINISH OUR EFFORTS TO PROTECT WETLANDS. IT SIMPLY MEANS WE CANNOT EXPECT PRIVATE PROPERTY OWNERS TO SACRIFICE RIGHTS AND EXPECTATIONS FOR THE SAKE OF WETLANDS PROTECTION AND PROMOTION OF THE PUBLIC GOOD.

THE CLEAN WATER ACT'S SECTION 404 PERMIT PROGRAM IS BECOMING A COMPREHENSIVE WETLAND PROTECTION STATUTE WHICH CAN BE MISUSED BY REGULATORS. FARMERS AND OTHERS ARE OFTEN PREVENTED FROM SIMPLY MAINTAINING PREVIOUSLY CONSTRUCTED AGRICULTURAL DRAINAGE DITCHES.

THIS IS NOT CONSISTENT WITH CONGRESSIONAL INTENT. IN 1977, CONGRESS AMENDED THE CLEAN WATER ACT'S WETLAND PROVISIONS TO ALLOW SPECIAL EXEMPTIONS FOR NORMAL FARMING AND MAINTENANCE OF DRAINAGE DITCHES. WE MADE THESE CHANGES OUT OF CONCERN THAT THE MASSIVE PERMITTING PROGRAM WOULD HAVE AN UNREASONABLE AND ADVERSE EFFECT ON AGRICULTURE. IN RECENT YEARS, HOWEVER, FEDERAL AND STATE AGENCIES HAVE NOT PROPERLY IMPLEMENTED THE FARMING AND DRAINAGE DITCH EXEMPTIONS.

THE TYPICAL SCENARIO IS THAT A FARMER APPLIES FOR A CLEAN WATER ACT PERMIT TO CLEAN OUT HIS DRAINAGE DITCH AND TO REMOVE WATER THAT HAS FLOODED HIS LAND. THE FARMER THEN WAITS FOR MONTHS -- PERHAPS YEARS -- AS THE REGULATORY AGENCIES REVIEW THE PERMIT. THEN THE AGENCIES REJECT THE PERMIT, ARGUING THAT THE WORK WOULD REDUCE THE SIZE OF "WETLANDS" WHICH EMERGED ON THE FARMER'S LAND.

IT CAN BECOME A "CATCH-22," NO-WIN SITUATION FOR THE FARMER. HE OR SHE MAY HAVE TO CONTINUE PAYING TAXES ON "FARMLAND," WHILE BEING UNABLE TO PUT THE LAND TO USE FOR CROP PRODUCTION AND OTHER PURPOSES, BECAUSE REGULATORS CLAIM IT IS REALLY "WETLAND." IN THE MEANTIME, THE FLOODING INCREASES AND THE WETLAND SPREADS, BECAUSE THE FARMER IS PREVENTED FROM MAINTAINING THE DRAINAGE DITCH.

SOME PEOPLE CLAIM VICTORY WHEN THIS HAPPENS. THEY ARGUE THAT WETLANDS ARE DISAPPEARING AT AN ALARMING RATE, THAT AGRICULTURAL PRACTICES ACCOUNT FOR 80% OF THOSE LOSSES, THAT DRAINAGE DITCHES PLAY A MAJOR ROLE IN THE PROBLEM, AND THAT PERMIT DENIALS EFFECTIVELY PREVENT FUTURE LOSSES.

BUT IS SUCH A PERMIT DENIAL REALLY A VICTORY FOR THE ENVIRONMENT? THE ANSWER IS NO IF PROPERTY RIGHTS AND CONSTITUTIONAL SAFEGUARDS ARE TRAMPLED IN THE PROCESS.

WE DON'T HAVE TO CHOOSE BETWEEN DUCKS OR DITCHES. WE CAN KEEP BOTH. IT'S REALLY JUST A QUESTION OF DETERMINING WHAT'S FAIR AND REASONABLE. WE SHOULD RESPECT A PROPERTY OWNER'S ESTABLISHED RIGHT TO MAINTAIN OR REPAIR HIS DITCH. THAT'S ONLY FAIR. WE SHOULD BALANCE THE NEED FOR FOOD PRODUCTION AND DEVELOPMENT WITH THE NEED TO PRESERVE WETLANDS. THAT'S ONLY REASONABLE.

THE KEY TO SUCCESS IS RECOGNIZING EXISTING RIGHTS, RESTORING PAST WRONGS, AND PREVENTING FUTURE ASSAULTS ON OUR WETLANDS. YES, THEY ARE OUR WETLANDS. THESE UNIQUE RESOURCES DO PROVIDE MANY PUBLIC BENEFITS. BUT WE CAN'T DEPRIVE INDIVIDUALS OF THEIR PRIVATE RIGHTS WITHOUT SOME COMPENSATION. IT WOULDN'T BE FAIR AND IT WOULDN'T BE CONSTITUTIONAL.

WE CAN STRENGTHEN OUR PROTECTION OF WETLANDS WITHOUT TRAMPLING ON FARMERS' AND OTHER PROPERTY OWNERS' RIGHTS. HOW DO WE DO IT? FIRST, WE CAN IMPROVE THE IMPLEMENTATION OF SECTION 404 -- PARTICULARLY THE DRAINAGE DITCH MAINTENANCE EXEMPTION. SECOND, WE CAN INCREASE OPPORTUNITIES AND INDUCEMENTS FOR PRIVATE PROTECTION, PUBLIC EDUCATION, TAX INCENTIVES, AND LIMITED SUBSIDIES. THESE NONREGULATORY APPROACHES OFFER GREAT PROMISE: THEY RESPECT PRIVATE PROPERTY RIGHTS; THEY INCREASE THE AWARENESS AND PARTICIPATION OF CITIZENS; AND, THEY KEEP THE FEDERAL GOVERNMENT'S ROLE AT A LEVEL THAT IS REASONABLE, YET RESPONSIVE TO THE NEED FOR ENVIRONMENTAL PROTECTION.

LET ME ALSO STATE, VERY BRIEFLY, SOME OF MY CONCERNS ABOUT THE NATIONWIDE PERMIT PROGRAM AND PROPOSALS TO MODIFY IT. CLEARLY WE NEED TO PREVENT THE LARGE SCALE DESTRUCTION OF WETLANDS. THIS APPLIES EQUALLY TO SMALL WETLANDS WHEN THE LOSSES ADD UP TO CUMULATIVE ADVERSE IMPACTS. BUT THE PROGRAM AND, IN PARTICULAR, THE PERMIT FOR HEADWATERS AND ISOLATED WETLANDS CAN CONTINUE TO PLAY A VITAL ROLE. ANY CHANGE THAT WOULD UNNECESSARILY INCREASE RED TAPE SHOULD BE AVOIDED.

MR. CHAIRMAN, I HOPE WITNESSES WILL FOCUS ON SOME OF THE FOLLOWING ISSUES AND QUESTIONS:

O HOW CAN THE CORPS PROHIBIT A FARMER FROM MAINTAINING HIS OR HER DITCH -- THAT IS, RETURNING IT TO ITS ORIGINAL CONFIGURATION AND CAPACITY?

O WHAT IS THE CURRENT TEST FOR IDENTIFYING "REESTABLISHED" OR "REEMERGED" WETLANDS? HOW DOES THE CORPS APPLY ITS SO-CALLED DUAL 51% RULE?

O HOW LONG DOES THE CORPS TAKE TO DETERMINE IF A DRAINAGE DITCH EXEMPTION APPLIES? HOW MUCH DOES A SECTION 404 PERMIT APPLICATION COST THE APPLICANT AND HOW LONG DOES IT TAKE TO GET? HOW CAN THE CORPS IMPROVE THIS SITUATION?

O HOW MANY TIMES HAS THE ST. PAUL DISTRICT GRANTED A 404(F)(1)(C) DRAINAGE DITCH MAINTENANCE EXEMPTION? HOW MANY DENIALS? IF ONLY 1 OR 2 EXEMPTIONS HAVE EVER BEEN GRANTED, ISN'T THAT A SIGN SOMETHING IN THE REGULATORY PROCESS HAS BROKEN DOWN?

O HOW COSTLY IS IT TO AVOID SECTION 404 JURISDICTION BY HAULING SPOIL MATERIAL TO AN UPLAND SITE RATHER THAN TO SIDE-CAST THE MATERIAL INTO A WETLAND? DOES THIS APPROACH LEAD TO NOT ONLY OUT-OF-POCKET COSTS BUT ALSO ENVIRONMENTAL COSTS DUE TO INCREASED SOIL EROSION AND WATER QUALITY DEGRADATION?

O HOW ARE THE CLEAN WATER AND SWAMPBUSTER PROVISIONS BEING COORDINATED? HOW CAN THIS SITUATION BE IMPROVED?

0 AND FINALLY, WHAT IS THE STATE DOING TO COMPLEMENT OR IMPROVE UPON THE CORPS' AND EPA'S SECTION 404 PROGRAM? SHOULD THE STATE TAKE OVER THE PROGRAM FROM THE CORPS?

I LOOK FORWARD TO TODAY'S TESTIMONY FROM THE LOCAL PANEL, THE CORPS, EPA, FISH AND WILDLIFE, USDA, AND MINNESOTA'S DEPARTMENT OF NATURAL RESOURCES. AND I AM ESPECIALLY INTERESTED IN REVIEWING THE AUDIENCE'S COMMENTS. UNFORTUNATELY, WE DON'T HAVE THE TIME TODAY TO LISTEN TO EVERYONE WHO WOULD LIKE TO TESTIFY. BUT WE DO WANT TO HAVE YOUR COMMENTS, SO I ENCOURAGE EACH OF YOU TO FILL OUT THE FORMS BY THE FRONT DOOR. AND, YES THEY WILL BE READ. YOUR TIMELY INPUT WILL HELP US IN WASHINGTON AS WE EXPLORE COMPREHENSIVE LEGISLATION ON WETLANDS PROTECTION AND REGULATORY REFORM. BOTH OF MY COMMITTEES -- THE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION AND THE COMMITTEE ON AGRICULTURE -- WILL BE LOOKING AT WETLANDS.

IN FACT, OUR WATER RESOURCES SUBCOMMITTEE, WITH CHAIRMAN NOWAK'S LEADERSHIP, WILL CONTINUE TO FOCUS ON SECTION 404 AND THE CORPS' IMPLEMENTATION EFFORTS. WE'LL HAVE FUTURE HEARINGS THROUGHOUT THE NATION. WORKING TOGETHER, WE CAN NOT ONLY MAKE A DIFFERENCE IN MINNESOTA AND ELSEWHERE, WE CAN MAKE REAL IMPROVEMENTS.

Mr. **Nowak**. Thank you, Arlan, and let me now turn to Jim Lightfoot, who joined us. He is a congressman, as you well know, from Iowa, in the Midwest, with similar problems in nature, although, again, it is a difficulty because they are not exactly the same kinds of problems as has been evidenced in our little field trip this morning.

Jim, welcome, as a member of the subcommittee and a very interested member in crafting a good bill in this area for the new legislation.

Mr. **Lightfoot**. Thank you, Mr. Chairman.

I appreciate your coming here today and holding this hearing, and I do have a statement that, again, in the interest of time, I would just submit for the record and just briefly say that we appreciate the opportunity to be here this morning, and you folks in the 7th District are very well represented by Arlan Stangeland, who, I think, has done an outstanding job working for you.

As the Chairman mentioned, I am from Iowa, and we have similar interests as you folks have here in Minnesota in this particular issue. In hearings held in Washington this past week, our state has a rather dubious title of, along with California, of something over 90 percent of our wetlands have disappeared, and, of course, some of that has been spurred on by farm legislation. Up until the CRP Program came along, under the set-aside programs, about all we ever got out of production were the road ditches anyway.

I introduced a piece of legislation last year which now has been adopted, which would allow farmers who were being penalized on the Swampbuster Program now can put that land into the CRP and receive some financial remuneration for doing that.

Also, regardless of the lousy Iowa-Minnesota jokes we may hear, there are a bunch of us down there who do like to come up here and fish once in awhile. So, we have got an interest in that side of it as well.

I live on the Missouri Flyway. I am very interested in wildlife activities, and, in fact, my parents live on a farm that I was raised on down in the southwest corner of the state. We have seen a lot of wetlands in that area disappear, basically going into production. The battle we have to fight here is to find out what is fair and equitable for all the interests involved.

Mr. Chairman, we, again, appreciate your coming out here, particularly to the Midwest. We kind of think this is God's country out in this part of the world, and we like to see you folks from Buffalo out here.

[Mr. Lightfoot's prepared statement follows:]

STATEMENT OF CONGRESSMAN JIM LIGHTFOOT
HOUSE PUBLIC WORKS AND TRANSPORTATION
SUBCOMMITTEE ON WATER RESOURCES
APRIL 14, 1989

MR. CHAIRMAN AND OUR RANKING REPUBLICAN, MY GOOD FRIEND ARLAN STANGELAND, THANK YOU FOR CALLING THIS HEARING. WE ARE HERE IN ST. CLOUD TO GET INPUT DIRECTLY FROM THOSE WHO ARE AFFECTED BY FEDERAL WETLANDS POLICY.

I'D ALSO LIKE TO SAY THAT THE RESIDENTS OF THE 7TH CONGRESSIONAL DISTRICT ARE FORTUNATE TO HAVE SUCH EXCELLENT REPRESENTATION IN ARLAN STANGELAND. HE'S TRULY BEEN A HARD-WORKING AND DEDICATED REPRESENTATIVE OF HIS CONSTITUENTS. IT'S BEEN A PLEASURE FOR ME TO SERVE UNDER HIS LEADERSHIP ON THE WATER RESOURCES SUBCOMMITTEE AND TO SERVE WITH HIM IN CONGRESS.

I APPRECIATE THIS OPPORTUNITY TO HEAR FROM THE HORSE'S MOUTH, SO TO SPEAK - FROM THE PEOPLE AFFECTED BY FEDERAL WETLANDS POLICY. YOU KNOW, I GREW UP ON A FARM IN SOUTHWEST IOWA WHICH MY DAD STILL OPERATES. I SPENT 16 YEARS IN FARM BROADCASTING, SO I IDENTIFY MOST CLOSELY WITH FARM COMMUNITIES AND THE UNIQUE PROBLEMS THEY FACE.

MY CONGRESSIONAL DISTRICT IN SOUTHWEST IOWA HAS CHARACTERISTICS SIMILAR TO THIS AREA - WE HAVE LOTS OF

FARMLAND AND A BIG PROBLEM WITH WETLANDS ALONG WITH MISSOURI RIVER. YEARS AGO, MY FOLKS' FARM WAS IN A SIMILAR SITUATION NEAR THE RIVER. AND MANY OF MY CONSTITUENTS ARE FACING PROBLEMS TODAY AS THE FEDERAL GOVERNMENT GETS TOUGHER ON PROTECTING WETLANDS AND THE WILDLIFE HABITAT ALONG WITH MISSOURI RIVER. WE'VE LOST HABITAT, BUT WE'RE ALSO PUTTING LOTS OF FOLKS THROUGH FINANCIAL HARDSHIP.

THE ONE THING WE HAVE TO DO IS STRIKE A BALANCE BETWEEN THE PROTECTION OF WETLANDS AND THE PROTECTION OF PEOPLES' LIVELIHOODS. THAT'S ONE REASON I WAS GLAD TO SEE THE DEPARTMENT OF AGRICULTURE REVISE THE CONSERVATION RESERVE PROGRAM (CRP) REGULATIONS TO MAKE IT EASIER FOR THOSE PRODUCERS WITH WETLAND ACRES TO QUALIFY FOR THE CRP. I HAD INTRODUCED LEGISLATION IN THE LAST CONGRESS TO ACHIEVE THIS GOAL SO FARMERS ADVERSELY AFFECTED BY THE SWAMPBUSTER PROVISIONS OF THE 1985 FARM BILL WOULD HAVE A FINANCIAL OPTION TO PROTECT THEIR LIVELIHOODS.

I LOOK FORWARD TO HAVING THE BENEFIT OF INPUT FROM PEOPLE LIKE YOURSELVES FACING SITUATIONS SIMILAR TO THOSE OF MY OWN CONSTITUENTS IN IOWA. I APPRECIATE THIS OPPORTUNITY TO JOIN YOU TODAY.

Mr. **Nowak**. Well, Money Magazine has said St. Cloud is the greatest place to live in the United States, I understand, and on my trip this morning, it certainly looks like it is a great little community. It reminds me of outside of the Buffalo, there are little smaller towns and cities and villages, and it looked exactly the same to me, even though you have got the Mississippi, we have got the Niagara River.

But let us move ahead with our panel here this morning, and our local panel, we have had a little revision. I think we have now for the first members of the local panel, Ron Ringquist from the Yellow Medicine Watershed District, and, Ron, if you will come up and take a seat. We have marked the seats according to the chairs there.

We also have on the local panel Don Ogaard, the Chairman of the Minnesota Soil and Water Resources Board. If he will come forward.

Bob Wensmann, the Stearns County Commissioner. Robert, if you are here, would you join our panel?

Also, Mr. Lee Hanson, Attorney. Is he here this morning?

And Robert Mostad, the Sauk River Watershed District Inspector, a Wetlands Inventory Hearing Panel member.

I think that fills out our first panel. Mr. Hanson, you may proceed.

TESTIMONY OF LEE HANSON, ATTORNEY, ST. CLOUD, MN; ROBERT WENSMANN, SAUK CENTER, MN, MEMBER, STEARNS COUNTY BOARD OF COMMISSIONERS; RON RINGQUIST, CONSULTING ENGINEER, YELLOW MEDICINE RIVER WATERSHED DISTRICT; ROBERT MOSTAD, DITCH INSPECTOR, SAUK RIVER WATERSHED DISTRICT; AND DON OGAARD, CHAIRMAN, MINNESOTA SOIL AND WATER RESOURCES BOARD

Mr. **Hanson**. My name is Lee Hanson. My address is 1010 West St. Germain, St. Cloud, Minnesota.

I practice law in St. Cloud representing agricultural interests. My brothers and my father farm our home farm in North Fork Township in Stearns County, which is part of the area viewed by you this morning.

Local government officials on this panel and myself are not coming asking you to drain our area's wetlands. People who farm this land make their living as stewards of the land and, in many cases, are second and third generations on the same land.

We, too, are concerned and sensitive to sound environmental non-polluting farming practices that will keep this land safe, productive and environmentally sound for our children and our children's children.

We have essentially two requests to make of your subcommittee.

One. Issue a general permit exempting repair and maintenance projects from the 404 regulations as that term is defined under Minnesota law.

We are not asking for exemptions for improvements or new ditches. The land over which these ditches was built has all been assessed for the cost of building the ditches going back to the early 1900s. No public money has been used in building the ditches.

These ditches are private property rights, which have been acquired and paid for by the property owners.

We are only seeking in any repair and maintenance project to restore a ditch to its original as-built specification. We are not seeking to take away any wetlands that has not already been drained under the prior construction of this ditch.

It is unfair to a local landowner to prohibit repair and maintenance of a ditch where the wetlands have re-established themselves. Only the county is permitted to repair or maintain drainage projects in Minnesota. Local landowners are not.

In many cases, the county has not appropriated money for the repair and maintenance because of fund shortages or not having regular ditch repair programs established. This has resulted in important ditch repair and maintenance projects being delayed or left undone.

The new individual exemption process in its current form is being used as a virtual bar to any ditch repair because almost no exemptions have been granted by the St. Paul District of the Army Corps. The only way to avoid the jurisdiction of the enforcing agency is to haul the fill. This does nothing to make for a more environmentally sound drainage project and simply raises the cost to the adjacent landowners.

Because of the position taken on the permit applications, the cost of all ditch repair and maintenance projects has increased by twenty to twenty-five percent in Stearns County as a result of additional legal costs, construction costs, engineering costs, public hearing costs, and public officials' time.

The overall effect is to cause bitter and divisive conflict in communities and add to the economic burden of the remaining farmers trying to stay in an already-difficult business. If this wetland exemption cannot be obtained for repair and maintenance projects, it will have the effect of taking a property right away in the form of an inverse condemnation.

Historically, a ditch runs through the lowest area of the land and cannot be moved in a repair proceeding. Therefore, as a practical matter, part of the ditch will almost always go through some wetlands. If the ditch cannot be repaired through this low wetland, the entire ditch will eventually become useless and affect the productivity of many, many more acres, not just the wetland area.

The Department of the Army and the Environmental Protection Agency has issued a regulatory guidance letter, dated August 17, 1987, that states, "404(f)(1)(C) specifically provides that dredged or fill discharges for the purpose of maintenance are exempt under 404."

This letter has never been disseminated to local units of government in this area. We submit to you that the good created by allowing a small number of acres of wetland to re-establish themselves by not permitting repair and maintenance of ditches is far outweighed by the negative effects of not repairing these ditches.

Entire farms will be lost by the families that own and farm them because of the loss of productivity. The real estate tax base in Western Stearns County and other counties in Minnesota will be drastically reduced at a time when local units of government are fighting for survival. This is an unthinkable result.

The second issue that I would simply like to introduce for one of the other panel members is, and it is not technically part of this committee hearing, we would submit that wherever a wetland exemption is granted for a ditch repair and maintenance, a swamp buster exemption should also be granted for the same reason. With that, I would like to introduce our second panel member, Mr. Bob Wensmann, who is sitting immediately to my right, who is the Stearns County Board of Commissioner member.

Mr. NOWAK. Mr. Wensmann, you may proceed.

Mr. WENSMANN. Thank you. I am. Bob Wensmann, Stearns County Commissioner. I reside at Sauk Center, Minnesota. I represent the 5th District, located in the western part of the county. My district consists of sixteen townships, fifteen communities, the majority of the county ditches and abundance of prime ag land.

County boards are being asked why counties have not cleaned the ditches earlier, that now when there has been some wetlands re-established along a ditch, there is a bar to an exemption for a permit for repairs and maintenance.

Because of the continued shortage of funding of local units of government and the practical and efficient allocation of county resources, drainage repair and maintenance projects are not implemented until there is a substantial need for work along the entire length of a project.

These ditches have been serving the purpose for which they were designed and constructed up until the last few years. However, many of these ditches need to be cleaned. Counties are charged with the responsibility of doing so under Minnesota law and the law of most other states.

On commencing drainage repair and maintenance work, the counties run into opposition of the Army Corps and the EPA, who, up until now in Stearns County, are taking the position that even repair and maintenance projects are in violation of the Clean Water Act.

This places counties in an impossible position. We are being threatened with legal procedures from the Federal Government agencies if we go ahead with repair and maintenance proceedings. We are being threatened by our local constituents if we do not go ahead with repair projects.

All of these proceedings take unreasonably large percentage of time for county boards which is primarily a part-time job at a time when we are over-burdened with many other developing social welfare problems in the county. If these ditch repair projects are not completed, it will significantly reduce the tax base of rural Stearns County and destroy the local communities in Western Stearns County.

I receive more calls from more people on this issue than any other. It is creating a bitter attitude on the part of many of my constituents that rules and regulations are being adopted without any concern for the people affected by them.

I have heard on a number of occasions that other districts are taking the position under the Clean Water Act that repair and maintenance projects are exempt, and I feel the St. Paul District should take that position, also.

Thank you.

Mr. **Hanson**. I would next like to introduce Mr. Ron Ringquist, the Engineer for the Yellow Medicine Watershed District.

Mr. **Ringquist**. My name is Ron Ringquist. I am a consultant, consulting engineer, for the Yellow Medicine River Watershed District, located south and west of here.

The board that I work for has a combined 59 years of board experience managing the waters in Southwest Minnesota. Written directly into their overall plan is that the overall objective of the Board of Managers is to conserve and make provident use of the waters and related resources within the district so as to improve the economy and general welfare for the benefit of its present and future residents.

The board is very concerned about the abilities to maintain present drainage systems within the district. The district was founded in 1971, and at the time of its foundation has over 60 constructed drainage systems within the district.

Since that time, there have been only nine improvements or new ditches constructed. At the same length of time, the district has undertaken over thirteen management projects to reduce flood damages and for environmental protection to fulfill their jobs.

The other portion that I would speak about would be the effect of the wetlands, the loss of benefits versus the increased cost to avoid jurisdiction.

When a wetland is impacted by a drainage system and dredge or fill materials must be hauled or the wetland maintained, it can subsequently 20 to 25 percent increase the cost of a drainage project. At the same time, the Viewers Association is educating the assessment of special assessments against properties to pay for these repairs.

When a property can no longer be maintained in an agricultural base, it is lost from the benefits of the project. With the increased costs of repair to maintain these wetlands or to avoid jurisdiction and the reduced benefit from the project, it may become financially unfeasible to complete these repairs.

Thank you.

Mr. **Hanson**. I would next like to introduce Mr. Bob Mostad. He is the Sauk River Watershed District Ditch Inspector and a Water Resources Panel Member for Todd and Douglas County in the Inventory of Wetlands.

Mr. **Mostad**. Thank you, Mr. Chairman, and thank you, Congressman Stangeland and Congressman Lightfoot.

I, in behalf of the Sauk River Watershed District, I would like to thank you for this opportunity of expressing our concerns to you on some of these problems. I guess basically my concerns are no different than what has already been expressed.

We are very concerned about the ability to maintain these ditch systems. They are vital to our agricultural community. It is just a must.

As far as regulations going, that we see a counterproductivity as far as the environment in some cases because of the regulations. For instance, the hauling of the—the requirement of hauling the fill material, the dredge material, from a wetland out. In the watershed district, we are vitally concerned with environmental quality of that water. We would like to see that put in a berm to form a dam so that it cannot—the surface water cannot get into the ditch and then install a pipe to bring it in a pipe and filter it through the ground.

Often, this cannot be done because of agency regulations. The cost gets to be prohibitive in a type of situation where this has to be done. It merely raises the cost of the agricultural producer of producing this commodity, and the agriculture community just simply cannot afford in these kind of times some of those costs.

I would also like to remind you that some of these real critical areas of wetlands really, the Federal Government and the state government both have the right of eminent domain if it is really necessary for public use. They do have the power with no further regulations to condemn that land and take it and put it to public use.

We in the watershed district have found that often on some of our projects, we have been able to isolate a ditch system from a wetland and both parties win. We saved the wetland and we are able to provide the adequate drainage of the ditch.

I think in view of the time element here and other people wanting to make comments on this, I think I will just close with that, and I certainly thank you.

Mr. HANSON. I would last like to introduce Mr. Don Ogaard from Ada, Minnesota. He is the Chairman of the Minnesota Board of Water and Soil Resources, President of Lower Red River Management Board, and the Administrator of the Wild Rice Watershed District.

Mr. OGAARD. Thank you, Mr. Chairman, Congressman Stangeland.

My name is Donald Ogaard. I live in Ada, Minnesota, in Norman County, in the heart of the Red River Valley. I am a lifelong farmer and have devoted the last eighteen years of my life to water management issues.

Serving as watershed district manager, currently its administrator, and, as stated, I am also Chairman at the present time of the Minnesota Board of Water and Soil Resources, an agency of the state that administers water and soil-related programs to 91 soil and water conservation districts, 41 watershed districts, and is the agency of the state directly responsible for the water planning initiative in the counties of the state which are going on at the present time.

The major initiative in the State of Minnesota at this time with 57 counties now participating developing their local county water plans. My workload has been and still is responding to citizen and natural resource needs relative to the management and regulation of water flows.

In other words, building the flood control dams and the organizations that I am involved with built 26 in the last ten years in the Red River Basin, and constructing farm land drainage ditches and channels, and that has amounted to over $10 million where I am administrator of the watershed district.

I wish to state without reservation that I and the organizations that I represent seek to preserve true wetlands and their habitat for the future generations to utilize and enjoy. True wetlands also provide water quality and quantity benefits not provided by other resources, either natural or manmade.

Flood control structures, and I wish to touch on them because it is really a part of the entire management scheme in a good share of Minnesota, the State of Minnesota also has a flood damage reduction program.

Flood control structures are usually built in wetland areas involving the excavation and disposal of vegetation common to wetlands and the refilling of that area with suitable soil for dam construction. The required local, state and federal permits for construction have been secured if the past without extreme difficulty.

However, in the past year, the process has slowed considerably with the inclusion of the requirements not previously considered pertinent. These are primarily state issues, however, relative to those wetlands, and their alteration or use for other purpose; in other words, using a wetland as a flood control project area is becoming increasingly difficult to do.

So, actually, any increase in the federal requirements above those which we have had in the past or enforcement of that which pertains to drainage ditches on the flood damage reduction program would essentially bring it to a halt in the Red River Valley.

Congressman Stangeland, for your information, there are thirty more flood control projects on the books for construction in the next couple of years. So, we are making a little progress up there.

Mr. STANGELAND. Yes.

Mr. OGAARD. You could come up and join us for the 1989 flood right. We are staging it at the present time.

Mr. STANGELAND. I am going to be there tomorrow.

Mr. OGAARD. Okay. The drainage ditches in Minnesota, as you have heard from others, are the primary reason for the agriculture production capability consistently exhibited year after year.

In the Red River Valley, which constitutes a major portion of Congressman Stangeland's district, adequate farm land drainage is the number one priority. That rates above fertility, chemical utilization or whatever. Without the drainage, we have got nothing. No profitable production is possible without sufficient drainage of surplus water from the land.

And that applies to large areas of the other part of the state, but not quite as much as when you are as flat as we are in that area.

In the lower flat land portion of the Valley, drainage networks exist that are probably not duplicated anywhere else in the country. And I have a map with me that I would like to have the committee take that gives you an example of what exists in one county in this state, and just exactly how important that is to the adjacent landowners.

If, for any reason, these ditches could not be—they can just have it—could not be maintained to carry out surplus water, the adjacent farm land would suffer severe losses. In the intermediate and upland areas of the valley, wetlands are interrelated with the drainage systems. In order to achieve farm land drainage, the water, of course, must transgress the wetlands.

If the terrain dictates that route, the utilization of existing wetlands as water retention areas, and this was alluded to by a previous speaker, as an integral part of the drainage system, design can be an asset to the wetland and to the system if topography permits the technique to be used.

I made a presentation to drainage design engineers recently, one which is sitting right alongside me and others that are in this audience, on that very subject. In other words, we are making an attempt, and I think all of the people involved are, to utilize the wetland in the system where at all possible. Another technique was alluded to of being able to berm up the drainage ditch and preserve the wetland.

But an important point must be recognized in this entire process. We can talk all we want about attempting to include the wetland in design, but construction must be permitted in the wetland habitat to use that capability to enhance and protect the system, the ditch system, as well as the wetland. With a no construction capability leaves us in the current quagmire that we are in.

The major problem encountered in legal ditch maintenance and repair is, as you have heard, when the system crosses a wetland area under current regulation. When the system becomes filled with sediment, causing the water flows to divert on the tilled farm land, that is something you do not usually hear a lot about, but it does happen, when the system becomes plugged, the water is going to come and goes out on the farm land, causes tremendous gullying effect, carries the sediment back into the wetland and the ditch system causing destruction of both the ditch system and the wetland itself.

We have many examples of this. If we can carry the water through in well-protected drainage systems, grass, piped inlets and so forth, we can prevent that erosion. As I have stated, a very integral part of our management scheme.

Although the focus of this hearing is not on the swamp buster provision of the 1985 Farm Security Act, there is a—it is alluded to, there is a definite relationship that cannot be ignored.

For the sake of time, I will just shorten this up considerably. I will be furnishing you my printed copy.

The ditches systems in the good share of the State of Minnesota, definitely in the Red River Basin, need to be cleaned about every ten years. If they are not, the wetland grasses choke up the ditch systems and start to spread out over the sides of the system, commonly becoming hundreds of feet wide in some cases, recreating the wetland that was there in the early 1900s.

We must recognize also that the drainage systems were installed in the State of Minnesota primarily between the years 1905 and 1920. They have been here a long time.

The problem then with the swamp buster provisions and, as mentioned, the integration of swamp buster and the other regulation is that when the ditch system is repaired, that makes it possible for that farm land to again have the drainage that it historically had.

Through a good share of our area, from 1981 to 1985, we had very excessive rainfalls. Those are the same years that are used for qualifying swamp buster under the Farm Security Act. Those are the same years that the photos are taken in the last week of June and the first two weeks of July for farm certification. Those are the same photos used for swamp buster certification.

So, you see, there is an irony. If an area was drowned out at all, and I am talking about land that is continuously farmed for fifty-sixty years, only to be drowned out in the series of wet years because of inadequate ditching, the ditches were then cleaned, and that is why you see that multitude of ditches on that map, they were all there originally, but they have all been cleaned. The dark lines have all been improved and cleaned. Then, that farm land again could be farmed in the usual manner, and it has created a very serious problem.

This provision of the federal law plus the regulation preventing drainage ditch cleaning because of existing wetland habitat adjacent to legal drainage systems by my evaluation standards constitutes the taking of property without just compensation.

A solution to this problem of requiring land use change can be accomplished by proper compensation. If the landowner is denied the use of this land for public benefit, then the public should compensate appropriately for that required land use change.

Several state and federal programs are specifically designed to do just that and are being utilized in some areas. The agency I chair in Minnesota has published a booklet to aid the landowner in this endeavor. That is this one. It is widely distributed in the state and you are welcome to a copy for the record.

The problem is that adjacent and/or contiguous lands can be and usually are impacted without any recourse or compensation. Up to now, I raised the issues and problems with only suggestions for potential solution. I believe the following should be considered.

Recognize the right of landowners to maintain their legal drainage systems and they are their systems. They do not belong to a county or watershed district under existing laws and require the drainage ditch authorities adhere to the letter of the law in carrying out the responsibilities.

Develop new programs or enhance existing programs for the acquisition and protection of existing true wetlands.

Another area that needs to be discussed is to adopt a uniform criteria, and I understand it is being worked on, for the evaluation of wetland areas by all affected governmental agencies.

We face a situation today when we can have up to three, sometimes four, interpretations of an individual area. That makes it very difficult to enforce at the local level.

Define the purpose for the protection of all wetland areas by regional criteria. That is another thing that is not recognized. We are being treated in a manner currently that throws all areas of this state in with other states and that is not true.

Soil types change. The water quality issue can be a primary issue in one area. Recharge of aquifers in another and wildlife habitat in another. They are not all the same all over the area.

Provide proper compensation to affected landowners when land use is dictated without recourse or option.

Develop partnerships with appropriate agencies of the state to carry out intended wetland protection goals.

Within the State of Minnesota, we are developing many partnerships in the last year that previously did not exist. I am very proud of the board that I chair, that this is one of our major goals, and incorporate the protection of true wetlands into the entire process.

And I would like to conclude with something that I consider very important, and that is to consider a balance of interests in the regulation of programs and policies that are developed.

Thank you very much for hearing my testimony today.

Mr. **Nowak**. Well, gentlemen, thank you very much.

In our field trip this morning, we had an opportunity to see firsthand the extent of not only the pot holes but of some of the drainage ditches that really cut across in various patterns, depending upon the older development, and it is one thing to realize that those drainage ditches—what you are asking for really is the maintenance of those areas that were there and we have some degree, I think, of awareness of the kinds of problems that you are faced with and what we are trying to do, of course, with Arlan's help and guidance here, is look at this whole problem and try to get a balance in this wetlands area and especially relating to this whole permit requirement that you are looking at.

It is amazing, I think, the sensitive nature of this problem, where you are perhaps only looking at a couple of different feet in elevation, and how, from the helicopter, you could see the various degrees of color, depending upon the moisture that is in your soil now.

It is just amazing, as you go from the drainage district out to the fields, and, so, it was, I think, a very interesting and worthwhile morning experience, and your testimony, I think, here will fill out the record, so we can take it back and really share it with our colleagues, and I want to thank you for your appearance.

Because especially Jim Lightfoot has to leave in a short time, I would keep any questions on some of the details that we have, and as we go back, we want to fill out this record, and we may get back to you with questions concerning your testimony.

But let me turn to Arlan now for any remarks he would like to make.

Mr. **Stangeland**. Well, thank you, Henry.

First of all, I would like—I have a series of questions, and I am going to ask as many as time is going to permit, and I will yield to you, Jim, and I will yield to you, Mr. Chairman. You set the time. You control the agenda here.

Can you give us an idea—now, these are general questions. So, any one on the panel who chooses to answer, please answer. I am not going to direct them to any one individual because I am not at all certain who would want to answer or who is able to answer.

But can you give us an idea of how costly it is both economically and environmentally to haul dredged spoil from ditch maintenance work to an upland site rather than a side cast, and do you even know as a legal matter when you can do one and not the other?

Mr. **Hanson**. I would defer to Ron on that question as an engineer.

Mr. **Ringquist**. On a repair project we had in Lincoln County, it was—we bid the hauling of the excavated material as a separate bid item. On that particular project, there were about a half a mile of excavated area to be hauled. We did finally get an overturn of the wetland designation, but the bid came in at somewhere over $35,000 as the low bidder for hauling that excavated material, which was over ten percent of the total project cost.

Mr. **Stangeland**. You know, Lee, I believe it was two years ago or so where you showed or your group showed me pictures of what side casting and constructing a berm could do environmentally as opposed to hauling the dredge spoils in the cleaning process.

If you could scare up those photos again of actual cases, I would like to submit them as part of the record.

Mr. **Hanson**. We will get the photos, and in addition to that, I think a couple of the panel members have mentioned the importance of the inlet pipes and the way in which water enters the ditch is extremely important to stop sediment from going in to the ditch, filling it up again, and polluting downstream.

We are as concerned about that as everyone else is, and technologically, there are methods of handling that that are not excessive if we can just obtain the permit to do it.

Mr. **Stangeland**. I am also interested in the actual cost to a property owner in applying for a permit, and I know that this would vary with different permit applications, but if you can give us a general estimate of what the costs are both in terms of out-of-pocket expenses and time investment in applying for a permit.

Mr. **Hanson**. I am not the right person to answer that.

Mr. **Stangeland**. Let me say this. If some of these questions are not—you are not able to answer them here, if you can do a little bit of research or have some research possibilities, to respond later. This record will be kept open for this hearing, Henry, what, two weeks?

Mr. **Nowak**. We will keep it open probably for another month, if you so request, Arlan, and give you the opportunity to submit all the detailed questions that you have already developed to the committee. We would——

Mr. **Hanson**. I would like——

Mr. **Nowak** [continuing]. Keep it open.

Mr. **Hanson** [continuing]. Mr. Chairman, I would like——

Mr. **Nowak**. Yes?

Mr. **Hanson** [continuing]. An opportunity to make a comment on that question that Congressman Stangeland just asked, and the part about what is the time and expense expended in applying for a permit, and the comment I would make is that, to my knowledge, at least in the current environment in Stearns County, no permits are granted for repair and maintenance projects. They have all been denied.

Therefore, it is indefinite, and that is what is causing the consternation and the frustration, is that it is a black hole. We just keep working and working and eventually are denied and that is where these projects sit right now. Those which have been applied for have been denied.

Mr. **Nowak**. I think, Mr. Hanson, the Corps will be able to look at Minnesota and Wisconsin, and we will have a general idea when they testify. Perhaps they can clear up that question.

Mr. **Hanson**. Yes.

Mr. **Stangeland**. I have got another question that I do not have—had not thought out until you testified, Don, and I thought of it at our hearing on Tuesday in Washington, DC.

But you have had extensive experience, eighteen years. Do you have any experience in all of that time of developing a new wetland for whatever reason, and the reason I ask you the question is that oftentimes we have a request to fill a wetland and there is mitigation required and the argument by various environmental groups and some members of this committee say that you cannot recreate a wetland, and I can recognize that if you have got a choice wetland, nobody can recreate what God has done.

However, where you have got a low grade wetland and you fill that, you can recreate, I think, I believe, a wetland equal to or far superior to that low grade wetland, and I am just wondering if you have any experience in all this of having gone out and through mitigation recreated wetlands, and what the experience of those wetlands are.

Mr. OGAARD. Mr. Chairman, Congressman Stangeland, that is a very timely question involving myself because I have spent the last three years attempting to convert the—there are a number of water retention sites that developed the wetland or changed their type, and that is one of my concerns.

Specifically, on your question, the watershed district that I am administrator for purchased one-quarter section of the land two years ago. It was in the corn and soybeans however long. It is on a ditch system. The ditch system transsects it diagonally.

I personally come up with the idea because of the tremendous erosion downstream to develop this into a wetlands. So, we developed it into a—in the process of developing it into a seven-pond wetland, much like rice paddies.

I have had more trouble getting that area developed and accepted as a wetland in the area of water retention than I ever did converting the other way around. That is a fact, and the reason you alluded to slightly in this move to mitigate a parcel of wetland in the area and have this area considered, at first, of course, a soybean field or a corn field, when you dike it up and try to create a wetland, is not going to have the value of a traditional hundreds of years old wetland, and that is one of our problems in developing habitat evaluation procedures, is the existing condition.

However, five years from now, ten years from now, that area, I anticipate, will be an excellent wetland, and we are doing this. There are other districts up and down the valley. There is another district that purchased three-quarters of the land, converting it back from farm land to wetland, and the purposes there are to—are manyfold. Not only flood control, but we are putting in the proper design for wildlife habitats and everything in the process.

The rest of them were all created because of putting permanent pools in existing valleys that were previously dry runs, and we have many of those, dozens of them, where we have a permanent pool behind the dam and this becomes a type of wildlife habitat or a type of wetland.

So, there is many that have been——

Mr. STANGELAND. I appreciate that. You know, the policy is not only going to be no net loss, but the stated policy goal is to increase the number, quantity and quality, of wetlands, and I hope we can do that without closing up drainage ditches and letting normally good wetlands reconstitute and taking land away from farmers who want to farm it, and I think any experience we have in recreating a wetland or creating a new wetland and what kind of experience that is can bode well for us in trying to negotiate out some of these sticky problems we are facing between agriculture and wetland preservation.

What are some of the obstacles to having ditch maintenance work done regularly? What role does the county play and what constraints are contained in your state drainage code?

I think some of you said you maintained a ditch for over ten years in our country, Don, but ditch maintenance here in this part of our problem, as I understand it now, is that through all the dry years, up to about six-seven-eight years ago, there was no need for ditch maintenance because there was not that much water to run, and what is the obstacle to regular ditch maintenance?

Mr. **Ogaard**. Historically, the ditch authority, be it a watershed district or county, responds to the citizen who lives on the ditch system. They usually do not respond until it gets to be an economic burden to them.

Unfortunately, the drainage authorities here and elsewhere have not carried on annual inspections. We are just getting into that. I believe it is an absolute must in the process to carry on annual inspections and annual maintenance.

What has traditionally happened, it has gotten out of repair and extensive costs are incurred to get it back in condition, thus there is a drastic change in the drainage capability of the system, and why—any other reasons, somebody else could add to it, why it does not occur oftener than up until that point.

It is gradual. It is very gradual. Can slowly sneak up on you a tenth of an inch yearly over years and years and years, and then, until all of a sudden, you reach that point when it does not handle the frequency flood flows that it should and causes extensive damage.

That happens again right now. The office is full of people and how can you help me out, and that is usually a case where it has been let go for a long period of time.

Mr. **Stangeland**. Do you want me to continue? I do not want to monopolize this, Mr. Chairman.

Mr. **Nowak**. I was just trying to, you know—from what we saw this morning and the questions that Arlan has gotten into here, it would seem an awful lot of the kinds of problems that occur year-to-year or season-to-season are due to moisture, either too much, too little, coming at the wrong time, staying too long, and the adjustments that you are trying to make with the ditches, of course, play off of that moisture.

I would assume that some years, where the amount of rain is lacking, these areas drain pretty well and you have got a lot of use of that land for cultivation, and then it may be the next year, you will find that it has become a wetland, and then you look to the drainage districts to try to help you with that balance, is that correct?

Mr. **Ogaard**. That is true.

Mr. **Nowak**. The maintenance of those would give you that perhaps little edge to get the moisture in or out depending.

One of the things I mentioned, I saw this morning, what are the—you have got some large irrigation—I do not know. What is the correct name for the——

Mr. **Hanson**. Center pivot.

Mr. **Nowak**. Pardon?

Mr. **Hanson**. Irrigation center pivots.

Mr. **Nowak**. Center pivots. Is that a specialty cropping being grown? What do they use that for? And it was right over a natural running——

Mr. **Hanson**. Ditch.

Mr. **Nowak** [continuing]. Ditch that was—it looked like it was—I guess it was manmade back in 19—they said 1910 or something and now has filled in with silt, but up on the crest, which was, you know, a quarter of a mile away, all the irrigation equipment was out there.

Is that a specialty cropping?

Mr. **Hanson**. Mr. Chairman, that area, and that is my home area, is primarily a sandy loam area, and the irrigation is needed to get enough moisture on it for corn and beans, primarily, is what is irrigated in that area. Otherwise, with the rainfall we have here in this area, it is not sufficient without that additional water to grow the crops.

It is primarily corn and beans.

Mr. **Nowak**. So, the farmer down the road half a mile without the irrigation equipment, who has not made the investment, cannot grow that or else he has got to be awful lucky if he tries it?

Mr. **Hanson**. Yes, or get a year in which there is little extra rain in July.

Mr. **Nowak**. And my understanding, you have had five or six years of very high and the last two have been under the "average" or normal, is that correct?

Mr. **Hanson**. Severe drought the last two years, especially the last year.

Mr. **Nowak**. I see. Thank you.

Jim Lightfoot, would you like to ask any particular questions? I know you have a plane to meet.

Mr. **Lightfoot**. Thank you, Mr. Chairman.

Just a couple of quick questions.

Continuing on with your discussion, because I noted that the track one of the center pivots actually runs right out through an area that is obviously a wetland on the outside of it.

One of the values that a wetland has is more or less a filtering quality of the water that passes through, filtering out some of the silt that is in it, maybe some of the chemicals that may still be in it, and so on.

With a center pivot system sitting that close to a wetland area, is there any indication that there is a degradation in the water that eventually ends up in the runoff or not?

Mr. **Ogaard**. There are people, Congressman Lightfoot, there are people in the audience that can do a lot better job than that, but inasmuch as I am also an irrigator, I will give it a whirl.

Mr. **Lightfoot**. Okay.

Mr. **Ogaard**. The amount of water put on the irrigation system does not cause surface runoff. The amount of water put on is that amount which economically will sustain the crop and not run off.

Consequently, the runoff of chemicals and/or fertilizers because of the irrigation would be a rare occurrence or at least a non-planned occurrence. In other words, the individual seeks every effort possible to utilize the maximum amount of chemical or the maximum amount of fertility upon the land, and they do that by the amount of water they put on.

In recent years, the technology and information available to the irrigator has increased to the point where the technology has increased significantly, even reduced historic problems in that area.

So, I would say that if the wetland is directly adjacent to that, it is probably getting irrigated a little by the center pivot as, can I use the cliche, freebie in the process. In other words, he is irrigating that as his cost, which should not endanger the area.

Mr. LIGHTFOOT. What do you view as the pros and cons as we go back in and do a reside slope on a two to one rather than a one to one dimension? I understand that is being suggested. Probably an engineer friend would be the best to answer.

Mr. RINGQUIST. The original constructions where ditches were constructed with the one half to one or one to one slopes, many of these ditches in the early 1900s were constructed with floating dredges, and they kept the steep side slopes in order to be able to reach the side cast materials.

Since that time, through natural occurrence, those slopes have resloped approximately two to one. SCS recommendation is that two to one to continue to keep that from continuing sliding in through the ditch system and to maintain a stable side slope so that it does not gully or erode.

I think it is very critical in ditch systems, especially in the lighter soils, not necessarily in the wetland soils, which are generally the heavier soils, but in between wetland areas, that this be allowed to do.

Mr. LIGHTFOOT. So, in a reditching process now, if you are trying to maintain the two to one, not only are you going to have to take out the center of the ditch, but you are going to have to take up quite a little bit on what would be the bank, I guess you would call it.

Mr. RINGQUIST. In most wetland area excavation, no. The top widths remain pretty constant. It is the change in the site slope from being one to one or one half to one in the twenty foot bottom down to what, in our area currently, gets to be four to six foot bottom width and resloped.

There is a question as to whether original construction actually ever dug that full twenty foot bottom as was planned. But in a statute constituted repair, it must be as originally constructed. The state law does allow this resloping.

Mr. LIGHTFOOT. Okay. That was going to be my next question because we have got, what, four entities: the Corps, the EPA, the Soil Conservation Service, and I guess your Department of Natural Resources involved in this.

Are they all in concurrence on what can be done in terms of side sloping?

Mr. RINGQUIST. No, they are not. The state statute allows the resloping. The federal Corps permit does not. If it is strictly a repair, two to one slopes are not allowed. If it is to be constructed as was originally completed.

Mr. **Lightfoot**. Where do the other agencies fall in this, or do you know offhand?

Mr. **Ringquist**. I cannot say for sure. My dealings have mostly dealt with the Corps.

Mr. **Lightfoot**. Okay. Thank you.

Mr. **Stangeland**. Well, I think part of the answer to that is I think we at one time had Colonel Brady convinced that the appropriate was a two to one side slope and so long as you did not lower the bottom configuration of the ditch, you never ever drained any more wetland because the width of the ditch had nothing to do with the amount; it was the depth of the ditch that had to do with the amount of wetland you drained, but it was, I believe, EPA at that time said no, you do not side slope, you maintain the same configuration as when that ditch was constructed, which is ridiculous, and we are still fighting that fight because erosion and environmental quality control says side slope, not up and down.

Could you tell us what kind of assistance that farmers or ditch owners receive from various governmental agencies on maintaining drainage ditches in the area? Is there ditch maintenance assistance in any federal agency?

Mr. **Ringquist**. There is no federal funding available for assistance on maintenance or construction of drainage systems. They are assessed directly to those that benefit or contribute to the ditch itself.

Mr. **Hanson**. There was a grant available at one time for seeding the ditch banks, and I do not know if that—if any of that money has ever come through, but I think that is the extent of any federal money available, is for seeding ditch banks and stabilizing ditch banks.

Mr. **Stangeland**. Okay. Viewers determine the benefit, who benefits from the drainage ditch project and how much to assess each property owner who benefits.

Do viewers take into account the expanded federal regulations which, in all likelihood, will decrease the value of all benefits? Since maintenance rights will be denied, are not the benefits to be assessed more speculation or mere speculation, and can a farmer be expected to in the future pay for his property right if he cannot even maintain it?

Mr. **Ringquist**. We are in the process as an educational association of determining how to address those issues. They are either reduced benefits or deferred benefits being discussed as methods of addressing farm policy which restricts the use of that property.

It is based on an income approach analysis and the assessment is only for what that land may increase in production.

Mr. **Stangeland**. Thank you.

Mr. Chairman, I have no further questions of this panel. I would just remind the panel and those in the audience as well that the record will stay open. If, through the course of this hearing, some other thoughts enter your mind that might help us sift out some of these things, I would hope that you would avail yourself of the opportunity to send more information to the committee and this is the first field hearing. The hearings will go on, and we would like to have as much input not only from this area but other areas as well.

Thank you very much, Mr. Chairman. Thank you, panel.

Mr. NOWAK. Thank you, Arlan.

The only other thing is, as we assimilate other information on this subject, we may formulate questions back to you, and if you could, we will accept those in writing and the record will stay open to try to complete that record.

Thank you very much for your time and your preparation for this and for the statements that you have submitted.

Thank you, again.

[The prepared statements of Messrs. Hanson, Wensmann, Ringquist, and Ogaard follow:]

Chairman - Members of the Subcommittee:

My name is Lee Hanson
1010 West St. Germain
St. Cloud, MN 56301

I practice law in St. Cloud representing agricultural interests. My brothers farm our home farm in North Fork Township, Stearns County, part of the area viewed by you this morning.

The local government officials and I who will be speaking to you are not coming and asking you to drain our area's wetlands. The people who farm this land make their living as stewards of the land and in many cases are second and third generations on the same land. We too are concerned and sensitive to sound environmental, non-polluting farming practices that will keep this land safe, productive and environmentally sound for our children and our children's children.

We have essentially two requests to make of your Subcommittee:

First to issue a general permit exempting repair and maintenance of ditch projects from the 404 regulation as that term is defined under Minnesota law. We are not asking for exemption for improvements or new ditches.

The land over which these ditches was built has all been assessed for the cost of building the ditches going back to the early 1900s. No public money has been used in building the ditches. These ditches are a private property right which have been acquired and paid for by the property owners.

We are only seeking in any repair and maintenance project to restore a ditch to its original as-built specification.

We are not seeking to take away any wetland that has not already been drained under the prior construction of this ditch.

It is unfair to a local landowner to prohibit repair and maintenance of a ditch where the wetlands have re-established themselves. Only the county is permitted to repair or maintain the ditches. Local landowners are not. In many cases, the county has not appropriated money for the repair and maintenance because of fund shortages or not having regular ditch repair programs established. This has resulted in important ditch repair and maintenance projects being delayed or left undone.

The new individual exemption process in its current form is being used a a virtual bar to any ditch repair because almost no exemptions have been granted by the Army Corps of Engineers.

The only way to avoid the jurisdiction of the enforcing agency is to haul the fill out. This does nothing to make for a more environmentally sound drainage project and simply raises the cost to the adjacent landowners.

Because of the position taken on the permit applications, the cost of all ditch repair and maintenance projects has increased by 20% - 25% in Stearns County as a result of additional legal costs, construction costs, engineering costs, public hearing costs and public officials' time.

The overall effect is to cause bitter and divisive conflict in communities and add to the economic burden of the remaining farmers trying to stay in an already difficult business.

If this wetland exemption cannot be obtained for repair and maintenance projects, it will have the effect of taking a property right in the form of an inverse condemnation.

Historically, a ditch runs through the lowest area of the land and cannot be moved in a repair proceeding. Therefore, as a practical matter, part of a ditch will almost always go through some wetland. If the ditch cannot be repaired through this low wetland, the entire ditch will eventually become useless and affect the productivity of many, many more acres, not just the wetland area. The Department of the Army and the EPA issued a Regulatory Guidance Letter dated August 17, 1987, that states 404(f)(1)(c) specifically provides that dredge or fill discharges for the purpose of maintenance are exempt under §404. This letter has never been disseminated to local units of government.

This will cause lawsuits against the county units of government which did not maintain the ditches as well as the federal government.

We submit to you that the good created by allowing a small number of acres of wetland to re-establish themselves by not permitting repair and maintenance of ditches is far outweighed by the negative effects of not repairing the ditches. Entire farms will be lost by the families that own and farm them because of loss of productivity. The real estate tax base in western Stearns County and certain other counties in Minnesota would be drastically reduced at a time when local units of government are fighting for survival. This is an unthinkable result.

Second Issue: Although it is technically not part of this committee hearing, we would submit that wherever a wetland exemption is granted for ditch repair and maintenance, a swampbuster exemption must also be granted for all the same reasons.

Robert Wensmann - Sauk Centre, Minnesota
Member of Stearns County Board of Commissioners

County Boards are being asked why counties have not cleaned the ditches earlier and that now when there has been some wetlands re-established along a ditch there is a bar to an exemption for a permit for repairs and maintenance.. Because of the continuing shortage of funding at local units of government and the practical and efficient allocation of county resources drainage repair and maintenance projects are not implemented until there is a substantial need for the work along the entire length of a project. These ditches have been serving the purpose for which they were designed and instructed up until the last few years. However, many of these ditches need to be cleaned. Counties are charged with the responsibility of doing so under Minnesota law and the law of most other states.

On commencing the drainage repair and maintenance work, the counties run into the opposition of the Army Corp and the EPA who, up until now in Stearns County, are taking the position that even repair and maintenance projects are in violation of the Clean Water Act.

This places counties in an impossible position. We are being threatened with legal proceedings from the federal government agencies if we go ahead with repair and maintenance proceeding. We are bing threatened by our local constituents if we do not go ahead with repair projects.

All of these proceedings take an unreasonably large percentage of the time of a county board which is primarily a part time job at a time when we are over burdened with many other developing social welfare problems in the county.

If these ditch repair projects are not completed, if will significantly reduce the tax base of rural Stearns County and destroy the local communities in western Stearns County.

I receive more telephone calls from more people on this issue than any other. It is creating a bitter attitude on the part of many of my constituents, that rules and regulations are being adopted without any concern for the people affected by them. I have heard on a number of occasions that other Districts are taking the position under the Clean Water Act that repair and maintenance projects are exempt; and I feel that the St. Paul District should take that position also.

STATEMENT OF RONALD RINGQUIST
YELLOW MEDICINE RIVER WATERSHED DISTRICT ENGINEER
SECRETARY, MINNESOTA VIEWERS ASSOCIATION

SUB COMMITTEE ON WATER RESOURCES OF THE COMMITTEE
ON PUBLIC WORKS AND TRANSPORTATION
APRIL 14, 1989
ST CLOUD , MINNESOTA

Mr. Chairman and Members of the Committee:

I am Ronald Ringquist, 175 North Tyler St., Tyler , Minnesota 56178, Consulting Engineer to the Yellow Medicine River Watershed District. I am also the Secretary-Treasurer of the Minnesota Viewers Association, an educational association for the improvement of assessment of benefits and damages for water related public projects, including special assessments for construction and maintenance of public agricultural drainage systems.

As the Engineer of the Yellow Medicine River Watershed District, I express to you, the Board of Managers, concerns about the ability to maintain agricultural drainage systems within the District. The Board of Managers have 59 combined years of experience in managing the waters within the District. The overall objective of the Board of Managers is to conserve and make provident use of the waters and related resources within the District so as to improve the economy and general welfare for the benefit of its present and future residents. Within the District watershed, 60 plus drainage systems had been constructed before their formation in 1971. Since that time only 9 systems have been improved or constructed while 13 public flood control and environmental protection projects have been completed. Also, through their permitting process, they have restricted many viable Type 3 Wetlands from being drained.

Some of the concerns about the impact of Federal Regulations which restrict or impact the maintenance and repair of existing public drainage systems are: the probable increase in costs due to added legal, administrative and construction costs, and the loss of benefits from the property which may be restricted from utilizing the drainage system.

The costs of maintaining a functional drainage system may increase by 20 percent or more when the Corps of Engineers determine that wetlands adjacent to the drainage channel have been recaptured. These costs are created in avoiding jurisdiction by removal of dredge materials from the identified wetland areas as it has been virtually impossible to get a permit. If a permit is applied for it has been taking up to a year or more to get any response granting or denying the permit.

This increases the cost not only for the additional Engineering and administrative costs, but also incurs interest costs on the amounts already expended.

The other side of this restriction is the loss of benefits to and from the system. If the maintenance work does not include a redetermination of benefits, areas originally drained by the system paid a proportional share of the cost of constructing the project, and must pay the same share even if he is unable to utilize the system. When a redetermination of beneftis is conducted as a part of the repair proceedings, and no benefits are applied to the recaptured wetlands, the total benefits can be reduced to a point where the increased cost exceeds the benefits and therefore cannot legally under Minnesota Statutes be repaired. It also cannot be abandoned if it still benefits some individuals or the public.

This creates a real dilema between the local government unit having jurisdiction over the project and the landowners who have acquired the assumed drainage rights. If the project proceedings meet certain requirements the local board must complete the project. If it is not completed the local board becomes liable for any damages created by their actions.

I thank you for the oppertunity to discuss this issue with the Committee and would be happy to answer any questions which you may have or provide any additional information which you might request to assist you in making policy decisions which will help protect our environment while maintaining our individual rights and ability to survive in the agricultrual industry.

Testimony: St. Cloud, Minnesota, April 14, 1989.
United States House of Representatives, Water Resources Sub-Committee

My name is Donald Ogaard, live at Ada, Minnesota in Norman County, in the heart of the Red River Valley. I am a life-long farmer and have devoted the last eighteen years to water management, serving as a Watershed District manager and currently it's administrator. I am also chairman of the Minnesota Board of Water and Soil Resources, an agency of the State, that administers water and soil related programs to ninety one Soil and Water Conservation Districts, fourty one Watershed Districts and is the agency directly responsible for the "Water Planning" initiative in the Counties of the State.

My workload has been and still is, responding to citizen and natural resource needs, relative to the management and regulation of water flows. In other words, building flood control dams (26 in 10 years) and constructing farmland drainage ditchs and channels (over $10 million in 10 years).

I wish to state, without reservation, that I and the organizations that I represent, seek to preserve true wetlands and their habitat for this and future generations to utilize and enjoy. True wetlands also provide water quality and quantity benefits not provided by other resources, either natural or man made.

Flood control structures are usually built in wetland areas and involve excavation and disposal of vegetation common to wetlands and the refilling the area with suitable soil for dam construction. The required local, state and federal permits for construction, have been secured in the past without extreem difficulty, however in the past year the process has slowed considerably with the inclusion of requirements not previously considered pertinent (primarily State issues). An increase in Federal requirements, through regulation, would bring the flood control efforts in the Red River Valley to a halt.

Drainage ditchs in Minnesota are the primary reason for the agricultural production capability consistantly exhibited year after year. In the Red River Valley, which constitutes a major portion of Congressman Stangeland's District, adequate farmland drainage is the number one priority. No profitable production is possible without sufficient drainage of surplus water from the land. In the lower flatland portion of the Valley, drainage networks exist that are probably not duplicated any where else in the country. (Please accept a map of the legal drainage ditchs in my home County (Norman) for the record). If for any reason these ditchs could not be maintained to carry off surplus water, the adjacent farmland would suffer sever losses. In the intermediate and upland areas of the Valley, wetlands are interrelated with the drainage systems. In order to acheive farmland drainage, the water cources must transgress the wetland, if the terrain dictates that route. The utilization of existing wetlands, as water retentiion areas, as an integral part of drainage ditch design, can be an asset to the wetland and the system if the topography permits this technique to be used. I made a presentation to drainage ditch design engineers recently on this very subject. An important point must be recognized however, construction must be permitted in wetland habitat to use this method of enhancement and protection.

The major problem encountered in legal ditch maintainance and repair is when the system crosses a wetland area, under current regulations. When the systems become filled with sediment causing the water flows to divert on to tilled farmland, severe soil erosion usually results, increasing the siltation in the channel. Channels can be constructed and maintained directly through wetland areas, without draining and destroying the character of the area in many situations by applying properly designed construction methods. The outright prohibition of construction activity can cause severe long term damage and does not necessarily prevent damage to contiguous areas.

Although the focus of this hearing is not on the swampbuster provision of the 1985 Farm Security Act, there is a definite relationship that can not be ignored. The majority of the land area of the Red River Basin had excessive rainfall during the years 1981 - 1985. It became apparent to landowners ajacent to legal drainage systems that they were in need of repair. Water and wind erosion, weed and tree growth, being the major problems. Numerous ditch cleaning proceedures were initiated under drainage laws of the State. Inadequate drainage had caused the crops, in low spots in fields, that had been farmed since the turn of the century, to drown out. The major rain storms occur in late June and early July traditionally. Those are the same weeks that aerial photography is used to certify field crops and conditions. Those photos are used to identify swampbuster qualifications. The ditchs were subsequently cleaned of obstructions and again became fully useable. Farmers are either being currently denied drainage of lands that had been historicly farmed or are denied farm program participation because of accomplishing that drainage which was needed. The benefitting farmland in our area paid up to fifty dollars per acre for the ditch cleaning, which is and has been a basic right of land owners since 1905 in Minnesota, under drainage law Minnesota Statute Chapter 106A. I am not talking about true wetlands with traditional habitat, but fields that have been continuosly tilled since the turn of the century.

This provision of federal law, plus the regulations preventing drainage ditch cleaning because of the existence of wetland habitat adjacent to legal drainage systems, by my valuation standards, constitutes the taking of property without just compensation.

A solution to this problem of requiring land use change can be accomplished by proper compensation. If the landowner is denied the use of his land, for public benefit , then the public should compensate appropriately for that require land use change. Several State and Federal programs are specificly designed to do just that and are being utilized in some areas. The agency I chair in Minnesota has published a booklet to aid the landowners in this endeavor. (Please accept a copy for the record). The problem is that adjacent or contiguous lands can be and usually are impacted without any recource or compensation.

Up to now I have raised issues and problems without any suggestion of a potential solution. I believe the following should be considered:

1. Recognize the rights of landowners to maintain their legal drainage systems under existing laws and require that drainage ditch authorities adhere to the letter of the law in carrying out their responsibilities.
2. Develope new programs and/or enhance existing programs for the acquisition and protection of existing true wetlands.
3. Adopt a uniform criteria for the evaluation of wetland areas by all affected governmental agencies involved in regulatory functions.
4. Define the purpose of the protection of all wetland areas by regional criteria (water quality, recharge acquifers, wildlife habitat, etc.)
5. Provide proper compensation to affected landowners when land use is dictated without recource or option.
6. Develope partnerships with appropriate agencies of the State to carry out intended wetland protection goals.
7. Incorporate the protection of true wetlands into farm programs on a uniform basis instead of the current "judgemental call" method.
8. Recognize the extensive local and state authority in the field of environmental enhancement by providing incentives rather than penalties.
9. Insure that the "Prairie Pothole Region" of Minnesota is treated the same as any other area of the State or Nation in the promulgation and enforcement of programs and/or policies.
10. Consider a "balance of interests" in regulations, programs and policies.

I wish to thank you for this opportunity to address this committee.

Mr. **Nowak**. Our second series of witnesses will be the already-mentioned U.S. Army Corps of Engineers, and they have been with us for a long time, and I suspect they will be with us for a long time in the future. So let me present John S. Doyle, Jr., the Principal Deputy Assistant Secretary of the Army for Civil Works and accompanying him is District Engineer Colonel Roger L. Baldwin, St. Paul District, U.S. Army Corps of Engineers.

Gentlemen, again, your statements will be reprinted in their totality in the record, and you may proceed as you so desire.

Mr. Doyle.

TESTIMONY OF JOHN S. DOYLE, JR., PRINCIPAL DEPUTY ASSISTANT SECRETARY OF THE ARMY (CIVIL WORKS), ACCOMPANIED BY DAVID BARROWS, COL. ROGER BALDWIN, AND BEN WOPAT

Mr. **Doyle**. Mr. Chairman, Congressman Stangeland, Congressman Lightfoot, thank you for the opportunity to be here today to be a part of this important process, looking into the operation of our nation's clean water program and what additional changes may be necessary to strike the appropriate balance that this nation needs, not just for water quality purposes, but to achieve the other legitimate needs that were addressed by the previous panel and will be by other witnesses, both in this hearing and later.

Also with us today, on my left, is Mr. David Barrows, who is the Assistant for Regulatory Affairs in the Office of the Assistant Secretary, and on my immediate right Colonel Roger Baldwin, the St. Paul District Engineer, and to his right, Mr. Ben Wopat, who is the Chief of the St. Paul District's Regulatory Branch.

With your permission, sir, I will summarize my written statement and ask that the full statement appear in the record.

Mr. **Nowak**. Without objection, so requested.

Mr. **Doyle**. After briefly discussing the Corps' regulatory program, the procedural aspects that attach to it and some of our recent accomplishments, I would like to focus my remarks on the agricultural drainage issues which have given rise to the discussions between the Corps, environmental agencies, and the agricultural community.

The Corps' regulatory program under Section 404 of the Clean Water Act is a part of the Corps' overall regulatory mission, which also includes authority under Section 10 of the Rivers and Harbors Act of 1899, and Section 103 of the Marine Protection Research and Sanctuaries Act.

Each year, the Corps evaluates approximately 15,000 individual permit applications and issues or denies permits for about 11,000 of those applications. The Corps' program also includes an enforcement arm, which investigates some 6,000 reported violations each year, and inspects permit activities for compliance with the terms and conditions of those issued permits, and, in addition, the Corps makes about 25,000 jurisdictional determinations each year, in response to citizens seeking to know if permits are required for their proposed projects.

Actual wetland boundaries are delineated using a joint federal wetlands delineation manual which was agreed to for the first time a few months ago between the Army, EPA, Soil Conservation Service, and the Fish and Wildlife Service.

As you know, Section 404 of the Clean Water Act is extremely broad in terms of the waters regulated. It applies literally to all natural or artificially-created water bodies including wetlands.

Conversely, the scope of activities regulated under Section 404 is extremely narrow. Only projects that involve the discharge of dredged or fill material into regulated waters are subject to Section 404. This jurisdictional juxtaposition is particularly important in understanding the limited capacity of Section 404 to control the drainage of wetlands.

We talked a little bit about this at the initial hearing on Wednesday, but it is this phenomenon with respect to the language of Section 404 that puts us in the posture throughout the country of having regulatory control over only about 20 percent of the wetland losses that are occurring currently. Roughly eighty percent of those losses are outside the reach of the Clean Water Act and Section 404 as currently drafted.

The Corps authorizes activities through both individual and general permits. Applications for individual permits require considerable evaluation and, at times, are subject to a lengthy and a complex process. That was addressed to a certain extent by the prior panel.

General permits are issued for minor activities and require a less rigorous administrative test for each individual project. Enforcement is accomplished through an administrative or a legal process.

An individual permit will be issued to authorize a proposed project unless the evaluation process determines that the project would be contrary to the public interest or it fails to comply with guidelines established by EPA in conjunction with the Corps pursuant to Section 404(b)(1) of the Clean Water Act.

General permits may be used to authorize activities whose impacts, either individually or cumulatively, are minor in nature. They are frequently used to regulate activities in waters which are less sensitive or where potential impacts to interstate commerce are less direct.

A number of minor activities, such as bank stabilization projects and utility line crossings, have been identified and authorized by nationwide general permits.

Enforcement actions are taken in response to work done without a permit and work done in non-compliance with permit conditions. Filling activities which have been completed without a Corps permit are usually resolved through either voluntary restoration or after the fact permitting and when needed, through administrative penalties or court-imposed civil or criminal penalties.

After-the-fact permits are considered only after all other appropriate enforcement responses have been completed.

In addition to requesting the information on the procedural aspects of the Section 404 program, your letter to us sought an explanation of how the Section 404 program was coordinated with other federal and state agencies.

The primary mechanism for coordination is the project specific public notice which, in this area, is sent to local zoning offices, the Minnesota Department of Natural Resources, the Minnesota Pollution Control Agency, the State Historic Preservation Officer, Fish and Wildlife Service, EPA, Soil Conservation Service, adjacent landowners, and any other organization or individual who has expressed a desire to be on the public notice mailing list.

The district engineer's evaluation of the permit application gives full consideration to the responses from the various agencies.

As discussed earlier, triggering the Corps Section 404 program is dependent upon an identifiable discharge of dredged or fill material into regulated waters and wetlands. For instance, if excavated material from the maintenance of a drainage ditch is hauled to an upland site for disposal, and this was mentioned by the previous panel as well, the project may proceed without triggering Section 404 since there is no discharge into a jurisdictional water of the United States and, therefore, the Act's proscriptions and limitations do not apply in that instance.

Some ditch maintenance projects do not require a permit for this reason. As a practical matter, however, most drainage ditch projects are designed to bisect wetlands and to side cast excavated material into the wetlands rather than incur the extra costs of hauling the dredged material to an upland site for disposal.

As a consequence, these ditch projects do come within the regulatory purview of Section 404 as written. Some of these projects have proceeded based on the Section 404(f) exemption provisions. Others have been individually permitted, some with modifications, and some have been denied permits because they would result in avoidable and unacceptable alteration of wetland values and functions.

There has been considerable discussion and contention over what constitutes normal farming activities for purposes of being exempt from regulation. The disagreement between the agricultural community and the regulating agencies has been most pronounced over the issue of maintenance of drainage ditches.

All parties agree Congress explicitly intended and provided that discharges of dredged or fill material would not be regulated when associated with maintenance, but not when associated with new construction of drainage ditches.

The basis of the controversy, however, is in defining what activity constitutes true maintenance rather than improvement or enhancement of a drainage system, and also at what point the Section 404(f)(2) recapture clause triggers a recision of the maintenance exemption.

For most of the nation, maintenance of agricultural drainage ditches has not been a particularly controversial part of the Section 404 regulatory program. Ditches were either continually maintained, in which case the activity clearly qualified for an exemption, or major modifications were proposed during maintenance and an individual permit was required.

However, in the North Central region of the country, particularly in North Dakota and here in Minnesota, there seems to be a history of problems associated with the maintenance of agricultural drainage ditches that was exacerbated, among other things, by the extended period of rising water tables that Congressman Stangeland mentioned.

Ditches that had not been cleaned out for many years began to need attention in the post-1984 time frame, about five years ago.

About that time, the agricultural community became aware of the Section 404 program's impact on drainage ditch maintenance.

In response to these problems, a regulatory guidance letter was issued two years ago in 1987 which clarified the intent of the exemption provisions as interpreted by the EPA. This national guidance letter was later incorporated in the St. Paul District's policy, which was, as mentioned, developed in coordination with EPA Region 5.

It has been the experience in the St. Paul District that most purported ditch maintenance projects are, in fact, drainage improvement projects that increase the hydraulic capacity of the original ditch, include the construction of new lateral ditches, and facilitate the placement of new tile drain systems and, thus, do not fall within the 404(f) exemption. As I said, that is at the heart of the issue that we are here to discuss today.

The Corps-EPA policy was issued by the St. Paul District Engineer on November 23, 1987, and, in essence, the policy on maintenance exemptions requires two things.

First, that the ditch be returned to its original condition. That is, the original alignment, the same bottom and top width, the same depth and the same side slopes to which the original ditch was constructed.

Second, that the ditch be part of an established on-going operation to ensure that the project will not convert the area to a new use.

To qualify for the maintenance exemption, it was necessary for the ditch proponent to demonstrate that lands along the ditch had been subject to regular but not necessarily continuous farming use. Those were the Clean Water Act requirements.

To quantify the requisite degree of use, the district policy set forth dual 51 percent standards. Regular farming would be established if it could be demonstrated that 51 percent of the wetlands adjacent and physically connected to the drainage ditch had been subject to the normal plowing, seeding and cultivating in the agricultural cycle and, second, that this had occurred for 51 percent of the time for which credible agricultural records existed and were available.

Since publication of the policy about a year and a half ago, the District has evaluated 20 ditch repair projects, and this goes to the point, Mr. Chairman, that one of the prior panelists made. In about the last 18 months, we have looked at approximately 20 applications and have granted three, denied 17. So, that has been our track record so far.

The District is concerned about the potential inequities that the dual 51 percent standard could conceivably cause. For example private landowners may be able to demonstrate continuous agricultural use of their own lands served by the drainage ditch, but may not be able to meet the 51 percent test that goes to the entire project area, since they are not able to control the activities of other landowners connected to the ditch.

Consequently, the District proposed to modify its policy by deleting the 51 percent of area test for individual landowners and requiring only that it be demonstrated that the land served by the drainage ditch had been farmed for at least 51 percent of the time for which there were credible agricultural records. We are waiting for EPA to give us a reading on that revised proposal. We do not have it yet, but are looking forward to it.

Mr. Chairman, that pretty well summarizes what we have here in the written testimony. I would be pleased to answer any questions that you might have.

I would only add one last thought. In connection with nationwide Permit 26 and its applicability here in this region of the country, the Corps recently conducted five public hearings to solicit views on how that permit was working or was not working. Over 400 members of the agricultural community and others participated. There was a great deal of discussion and valuable testimony was collected. I would suggest it to the committee's attention for purposes of your deliberations.

It clearly, I think, identified the competition of values that are at the heart of the issues we have to address here in wetlands preservation and clean water preservation vis-a-vis agricultural interests.

The agricultural community and those representing the agricultural interests believe the Corps' 404 regulatory program represented a matter of over-regulation, that it created confusion about the jurisdiction and role of the Corps and the other federal and state agencies, and that it was an infringement on their property rights.

Those representing environmental interests and the environmental perspective believe that the 404 program was not strong enough in terms of protecting water quality values, ground water resources and habitat for wildlife. There is great merit in my view behind the arguments of both sides of that particular issue.

There are fundamentally important values at stake here, values that are at the heart of our Constitution and this great nation, and it is a set of issues that we are all going to have to work very carefully to address. We have got to find the right balance between public and private rights. I am sure we can do it, and we are very happy to be with you here today to be starting that process.

Mr. **Nowak**. Thank you very much, Mr. Doyle.

Your written statement as submitted is very comprehensive, and I think it will aid this committee in going through the detail that we will have to to strike that balance that you speak of.

I just want to make clear one of the other areas that has an impact on this whole problem, I understand the National Wildlife Federation had a court action relating to the permits for wetlands.

I wonder if you could describe that and when it happened and what the result of that was.

Mr. **Doyle**. Yes, sir. Let me take a crack at that, and if I miss anything then one of the other panelists can add to my remarks.

Back in about the 1982 time frame, if I recall, a set of proposed regulatory changes was challenged by the National Wildlife Federation in litigation that led approximately two years later, to a settlement action.

Among other things, that settlement action called for redefining the nationwide Permit Number 26 in a way that took away its coverage from certain areas, isolated waters and head waters.

As a result of the 1984 settlement, areas particularly up here in this region of the country that had been previously authorized by nationwide permit would no longer meet the criteria for that means of authorization. That caused individuals covered by the change to begin to examine the need for individual permits and/or permit exemptions under 404(f).

I think that is part of the reason we have seen the increased interest in this part of the region over the last five years in drainage ditch issues.

Mr. NOWAK. Yes. Colonel, do you have anything further?

Colonel BALDWIN. No, sir. I think Mr. Doyle summarized that very well.

Mr. NOWAK. All right. Let me turn to Arlan Stangeland now for more questions.

Mr. STANGELAND. Thank you, Mr. Chairman.

I would like to officially and formally welcome Deputy Secretary John Doyle here to the 7th District.

For those in the audience who are not aware, for four years, John Doyle sat on my left as a ranking Republican staff member of this subcommittee. He was my chief counsel, and, so, we have a long lasting friendship.

I think there are some in this crowd that are a little concerned that part of this hearing is to bash the Corps. We are not here to bash the Corps. We are trying to get at the bottom of the problems that we have with the Corps and the problems that the Corps has and who else are the driving forces with the Corps on the point, getting—bearing the brunt of all the frustrations. There are other driving factors beyond the Corps of Engineers, and this lawsuit you mentioned, John, was just one of those.

But I will just—I have a few questions here that I will ask and may ask some for the record to be answered at a later time.

But in 1977, the Congress amended the Clean Water Act Section 404 to specifically include exemptions for normal farming operations, including the maintenance of agricultural drainage ditches. That was part of a larger compromise and recognition of existing property rights.

What evidence can the Corps present to show that it is living up to the bargain? What has changed if you cannot? Has the court action changed the bargain? How many times have you determined that ditch maintenance exemption applies in 404(f)(1)? And what generally can you tell me?

Mr. DOYLE. The court action clearly had an impact, not in terms of how we view normal agricultural practices, but clearly in terms of the scoping question, which waters were going to be covered by individual permits and which not.

We do not keep nationwide statistics on the number of 404(f) exemptions. So, I cannot answer the question on a nationwide basis.

As I have indicated, at least here in the St. Paul District, we have evaluated about 20, granted three. So, that is the record here thus far.

The dual 51 percent standard developed here in the St. Paul District to evaluate whether we are talking about normal maintenance and repair or something beyond that is a standard that reflects the traditional approach the Corps tries to take in terms of implementing its responsibilities under Section 404.

We talked two days ago about this program and how it could be implemented and administered by one agency or another. The Corps takes a public interest balancing approach to its 404 program implementation responsibilities. We attempt to identify the various competing values that may be affected by the permit decision and then reach a decision in the public interest.

In terms of the maintenance question, in order to identify what was maintenance, what was not, what was normal, what was abnormal, it was felt that if it could be demonstrated that roughly just more than half of the acreage involved qualified more than half of the time on that was a balanced approach to answering the question, what is maintenance.

There obviously are other approaches that could have led to a more restrictive or less restrictive answer, but that was the approach we took to try and strike the necessary balance.

Mr. STANGELAND. Well, for the past few years, I have worked to try to find some regulatory guidance to clarify what really is eligible for maintenance and I guess that is a real sticky problem, is how you define maintenance, but the 1987 guidance and our negotiations preceding it recognized the value of a two to one side slope and contemplated a general permit for certain reside sloping work.

In fact, in 1987, the Corps put out a press release that said the following, I quote, "The St. Paul District recognizes the merits of modifying its side slopes to reduce erosion and the frequency of clean-out work. Consequently, the District will soon be issuing a public notice outlining a general permit to authorize side slopes flatter than the one vertical to one horizontal traditionally used in difficult agricultural drainage ditch construction projects. It will take 60 to 90 days to finalize the proposed general permit."

Afterwards, though, the Corps backed off in light of criticism from various groups. In light of the benefits, such as reduced erosion, cannot we continue to—how can we continue to discourage such environmentally-sound ditch repair work?

Colonel BALDWIN. Sir, on the—let me respond to that.

You are correct that the District did propose expanding that one to one to two to one and did so in public forum.

The comments that we received as a result of that public notice expressed a number of concerns as would relate to the impacts of adopting such a policy, and those concerns related both to the direct effects and the indirect effects.

The direct effects were that if that policy were to be implemented, any where from four to seven thousand additional acres of wetland could be destroyed if you did that for the entire length of all ditches within the state.

The concern over the indirect effects would relate to the increase in hydraulic capacity, thereby increasing the capability of this ditch system to drain the wetlands.

However, we examined the track record also as it relates to exemptions in general, and as Mr. Doyle previously testified, that since we have had this concentrated effort on exemptions, only three of twenty exemption requests met the 51/51 standard.

Given the controversy over induced wetland losses and the fact that most of those applicants would not have been able to satisfy the 51/51 criteria anyhow, we withdrew the proposal to allow new side slopes because we felt that the burden of proceeding would not exceed the anticipated benefits.

Mr. STANGELAND. Well, you know, again, I disagree with the contention that doing the two to one side slope is going to drain an additional 240,000 acres because if you keep the bottom configuration the same, you do not drain any more water, you just drain it faster, and you save erosion of the ditch and destruction of the ditch over time.

Colonel BALDWIN. Sir, most of those ditches will go through a combination of wetlands and farm land.

We estimate that of the total mileage of drainage ditches in the State of Minnesota, approximately ten percent of those would go through wetlands. That means that as we were to widen that side slope, the additional lateral material to be removed would, in fact, be the destruction of wetlands, and that was the direct impact of 4,000 acres that we were talking about.

Mr. STANGELAND. You are addressing the additional fill coming out of the ditch going into the——

Colonel BALDWIN. Coming out of the ditch and going into a wetland. Our estimate was about ten percent of the ditches go through wetlands.

Mr. STANGELAND. Let me ask you one other question then along that same line.

Some of these ditches can be dredged now without a permit so long as the fill is taken and hauled away, but if the fill is placed as a berm on the edge of the ditch, then they need a permit, and I cannot quite follow if the dredging of the ditch is going to drain additional wetland, what is the difference whether you put it in the berm or whether you haul it away, and if you create a dike on the berm and use a pipe to drain whatever that ditch will drain, you prevent the sheet erosion of the water coming off the land and gullying the land and filling the ditch again.

I just do not understand why that narrow fill is going to be so terribly destructive to that wetland and, yet, in the long run, may enhance the whole operation.

Do you understand what I am talking about?

Mr. DOYLE. It seems to me, Congressman, that the questions you ask are all very legitimate ones, made all the more so by your tremendous background in not just the water quality end of this, but the agricultural end as well.

Again, it comes down to trying to find an appropriate balance point. On the one hand, we have got to maintain the diminishing wetlands resources of the nation. As has been pointed out, Iowa, I think I saw statistics, has only one percent left of its natural wetlands that it had two hundred years ago. In California, something like five. The nation, less than half.

As we become more and more aware of how important these wetlands are, we are coming to appreciate the need to preserve them or we will suffer immeasurably down the road.

Now, I was struck this morning by a number of things, but nothing struck me more than a very small incident that occurred after we got out of the helicopters. The two farmers who owned the land we were viewing came up, as you will recall, and one of them, I think his name was Jim Anderson, had two of his three children and had each one in tow, hand in hand. The message I received from them was so clear. This is someone who cares about his family and about, therefore, the future of that family.

It was a very strong message. People in this area are not going to be irresponsible about how they handle the stewardship responsibilities we all share. That is fundamentally important. We all have got to proceed from that understanding and try and make right decisions wherever we can.

Mr. STANGELAND. Well, it is interesting. I happen to be a national trustee of Ducks Unlimited. I am really torn on this issue with my farm background and representing a farm district, but I was visiting, this happened after we had dinner last evening, they had their annual St. Cloud banquet, and I just stopped in to say hello to some folks, and had people finally recognizing in that organization and other wildlife people as well, saying that, you know, if we expect wetlands out there, we better start being prepared to pay for them, pay for the farmer for them, if we expect him not to be able to farm his land the way he wants to or traditionally has. That might be a good point for us to pursue further.

Has your agency, has the Corps of Engineers had any experience with artificially-created wetlands either as mitigation or as new wetlands use? Basically, the same question I asked Mr. Ogaard.

Mr. DOYLE. Yes, sir, we have. We can provide some details for you for the record. We have been operating our dredged material research program for a number of years, which has been an effort to try and use dredged material to create and enhance wetlands.

We have a number of other research efforts underway in this arena. I do not in any respect attempt to suggest that we know all that we need to know in this regard. We need to know much more and to do a great deal more R&D, not just in the Corps but in the other agencies as well, but on that we will provide some information for the record.

[Additional information on Corps of Engineers wetlands research follows:]

Wetland Research By the Army Corps of Engineers

The Army Corps of Engineers initiated wetlands related research and development over fifteen years ago with the Dredged Material Research Program (DMRP) administered by the Corps' Waterways Experiment Station. A finding of the DMRP (1973-1978) was that dredged material can be used for a number of beneficial uses, including the creation of marshes. Since about 95 percent of all material dredged each year is uncontaminated, there is great potential for beneficially using this material for marsh creation.

The Corps constructed demonstration wetlands at six locations around the country during the DMRP and evaluated to document the sites' long-term stability, their vegetational development after planting, their site functions and values relative to natural systems, and to demonstrate that marsh habitat development could be accomplished using dredged material. Sites were selected at the following locations: on the Columbia River at Miller Sands, just 8 km up from Astoria, OR; in a former salt pond toward the extreme southern end of San Francisco Bay; on Bolivar Peninsula adjacent to Galveston Bay, TX; on a dredged material confined disposal island in Appalachicola Bay, FL; on an unconfined disposal island in Buttermilk Sound, GA, on the Altamaha River; and on a confined disposal island near Windmill Point just a few miles downstream from Hopewell, VA, on the James River. The Army concluded from these study sites that it was feasible to develop both salt and freshwater marshes on dredged material and that various functions of marsh, such as providing habitat and substrate stability could be achieved within a relatively short time. The technology developed for marsh creation during the DMRP can be applied to numerous other situations such as for coastal protection and using constructed wetlands for Section 404 mitigation or compensation.

During the period of 1978-1981, in response to Section 404 of the Clean Water Act, the Corps of Engineers conducted research to determine the physical limits of wetlands. As a result, eight regional wetland guides were produced that described the physical and biological attributes of wetlands.

In 1981, the Corps began the Wetlands Research Program (WRP). It had as its two primary goals the development of wetland delineation procedures and wetland evaluation techniques that would assist the regulatory groups in the Corps districts in carrying out the mandates of Section 404 of the Clean Water Act and Executive Order 11990 for the protection of wetlands.

These goals were realized when the results of the Wetlands Research Program were included in two Corps technical documents, the Wetlands Delineation Manual and in the Wetlands Evaluation Technique (WET). The research program has continued to improve the workings of these manuals and recently the Corps Wetlands Delineation Manual was combined with Environmental Protection Agency, Soil Conservation Services, and Fish and Wildlife Services documents to provide a unified Federal Wetlands Delineation Manual.

The Army Corps of Engineers is continuing research in an effort to regionalize the WET and is presently focusing on bottom land hardwood systems of the Southeastern U. S. with a study in the Oache River in Arkansas.

Mr. STANGELAND. In your testimony, John, you state, "There is a regulatory void in Minnesota for certain types of water bodies, so that, in a way, the Corps has a greater duty to review permits and protect an overriding federal interest."

In a way, you are implying the Corps needs to pick up the slack when it comes to these water bodies outside of Minnesota and DNR's jurisdiction. I would appreciate your comments, and I would also be interested later on this afternoon as to what Mr. Nargang of DNR has to say.

Mr. DOYLE. That statement in the testimony also accompanied another discussion just prior to it, as I recall, that tried to make the point that we as a federal regulatory agency attempt to defer to local and state planning and zoning agencies wherever we can. Where those agencies have assumed regulatory responsibility for purposes of making decisions about how the particular affected resource should be managed, we attempt to defer to those decisions.

In this particular instance, there is not a complete state regime. The state only addresses certain high priority waters as defined in the state statute. That leaves a void putting us in a position of not having a state view with respect to what should happen with those uncovered waters. That increases our role.

Mr. STANGELAND. Are any other districts, any districts other than St. Paul, and, if so, are you aware of where, how many, taking the position that repair and maintenance of drainage projects are not exempt?

What is the attitude in other districts around, because I am led to understand that we have a little more rigid regime and approach to the whole problem than other Corps districts?

Mr. BARROWS. As Mr. Doyle said earlier, we do not track nationally those things that are exempt from our authority. So, we do not have very good statistics, but being in the program for a long time, when problems, such as the one in Minnesota area, surfaced, we certainly hear about them, and I am unaware of any other issues concerning the maintenance exemption any where in the country right now.

Mr. STANGELAND. You know, this is another thing that I think disturbs our people because they think they are being treated differently than farmers in other parts of the country, and if it is a federal directive, the Corps of Engineers is a federal program, federal policy, federal agency, then it ought to be the same throughout the country.

It should not be different in Minnesota than it is, say, down in Oklahoma. We ought to be the same, and I think if all these farmers felt that we were treating everybody the same, I realize this is a unique area, because of the Prairie Potholes, because of the flyways, because of the wildlife and Minnesota is a very strong wildlife state, more Ducks Unlimited chapters, more Ducks Unlimited sponsors, more Ducks Unlimited members, I think than any other state, except maybe Wisconsin, and we are proud of that.

Most of our farmers, most of my farmers are duck hunters or a lot of them are or avid for wildlife conservation, but we should—the directives and the regulations ought to be general overall, and we should not be required to be held to a higher standard than some other parts of the country.

Colonel **Baldwin**. Sir, could I respond just in part?

We in St. Paul also agree that the maintenance of ditches should be exempt and the law provides for that exemption. The issue, though, centers around the definition of maintenance and that is where you find the difference.

The definition that we were able to come up with, the 51/51 criteria, was, if you will, criteria that was established in close consultation with the Environmental Protection Agency who has the ultimate responsibility for making exemption and jurisdictional determinations. Some of the differences that you will find, I believe, relate to regional differences, and then, the best accommodation, blessed by the Environmental Protection Agency, has been applied to the region.

Mr. **Nowak**. I think we will have in the next series of witnesses three federal agencies, EPA, Fish and Wildlife and USDA, I think they will be able to look at that question in a little broader scope, too, because they were consulting not only with your division here, but I assume all over the United States.

Let me turn to Congressman Lightfoot, who has been very patient.

Mr. **Doyle**. Before you do that, may I just make one last comment?

I totally agree with your premise, Congressman Stangeland, at least as I heard it. This is a program that is intended to be run in an even-handed uniform fashion. We should not be doing things one way in the Albuquerque District and another way in the St. Paul District and a third way in the Buffalo District, unless there is a good reason, unless there is a truly legitimate reason to do things differently.

Where those three districts are looking at the same problem, they should be handling the same problem the same way. We need to take a task away from this hearing to go out and review our situation district-by-district and attempt to give you back some additional information about the extent we are following similar practices in similar places.

[Additional information on the consistency of Corps districts' interpretation of guidance on 404(f) exemptions follows:]

Review of Implementation
404(f) Ditch Maintenance Exemption
At Army Corps of Engineers Field Operating Activities

Headquarters, Army Corps of Engineers conducted a survey in May 1989 of its field offices involved in the 404 regulatory program to determine to what extent those offices were consistent in interpreting and executing the 404(f) exemption for maintenance of drainage ditches. The survey asked each office for a general description of how it decides if a ditch maintenance project is exempt under 404(f)(1)(C), a general description of how the district decides if the recapture provision of 404(f)(2) applies to a project, and the number of drainage ditch maintenance exemption requests received during the last year.

The experience districts have had in the past year in making exemption determinations ranged from none to 50. Generally, where the number of requests for exemption is small, the district does not find it necessary to have a detailed definition of "maintenance" to apply in its decision process. However, those districts having more experience with the exemptions have established more sophisticated methods for determining "maintenance" and whether the recapture provision applies. Those methods involve factors such as how the work would be accomplished and the ditch dimensions. Two other districts have a practice and interpretation that is similar in degree and detail to that of St. Paul District. However, these districts have developed their interpretations without the public notice and extensive EPA involvement that St. Paul District has experienced. These districts also seem to use the same types of information resources such as aerial photography and Soil Conservation Service maps. The conclusions being reached by these districts seem to be comparable to those of St. Paul.

This survey shows that there is not uniformity among the districts in the degree and detail used in determining if a project meets the requirements of a 404(f) ditch maintenance exemption. This is because there is great diversity in the number a cases individual districts might handle. Generally, the more cases handled, the more interest there is by other agencies and the public, and the more detailed the procedures become. The effort required to ensure total uniformity does not appear to be justified. The survey did point out some confusion in some districts concerning the exemption provisions. These points are being handled by individual and collective guidance from Headquarters.

Mr. Nowak. Congressman Lightfoot.

Mr. Lightfoot. Thank you, Mr. Chairman.

I would underscore your last statement, Mr. Doyle. My congressional district, I have got Rock Island, Omaha, and the Kansas City Corps. I have got three different districts, and we do find those differences, although I do not think it is peculiar to the Corps of Engineers, you can get one answer interpretation on IRS out of Chicago and a different one out of Kansas City and a totally different one if you go somewhere else.

I do not think it is something that is peculiar just to the Corps.

Mr. Doyle. My kids do that at home, too, by the way. You get one from their father and another from their mother sometimes.

Mr. Lightfoot. And play the best one against the other two.

That was really more of a statement than a question, but it appears that one of the major problems we are dealing with here is that one man's maintenance is another man's improvement, and somebody else is something else, depending on what the viewpoint is, and that apparently at this point it would appear that we need to come to some consensus of agreement amongst the various agencies involved with what is "maintenance".

If, in fact, that is a true assessment of the situation, what is the Corps willing to do to try and standardize the definition of maintenance, not only within the Corps itself but with the EPA and all these other agencies that we are dealing with and organizations?

Mr. Doyle. As I indicated, we are going to have to examine our thirty-seven districts and see to what extent there may not be a uniform policy being followed. That is not to say that there is.

I want to assure myself that what we are doing is what we should be doing. Clearly, the problem of ditch maintenance has arisen most visibly here in this part of the country over the course of the last five years. The St. Paul district has been on the cutting edge of policy development worked out between the Corps and EPA at the regional level.

Mr. Lightfoot. Thank you.

I just got a note here. So, I will catch the plane, I got to go. So, Mr. Chairman, thank you. Thank you for coming today.

Mr. Stangeland. Thank you.

Mr. Nowak. Well, thank you for making the effort to attend the hearing, and I know of your interest in it and look forward to working with you as we develop this legislation.

Let me thank the Corps for their voluminous written testimony. I think it will give the other members who were not able to appear with the subcommittee a good broad idea of what the issue is and what the possibilities are of redefining this along with the other agencies that are involved in looking at this problem and perhaps, you know, the answer is a variation, depending upon some geographical differences.

I do not know if we are looking at the same type of problem in Arizona or California or, for that matter, Iowa. So, we have got an opportunity, I think, to review this as we look at the whole wetlands question, you know, throughout the nation as the Conservation Fund did and we have an EPA administrator who has played a large role in forming that conservation forum and the agenda that they have come to us with.

So, let us thank you very much for your cooperation, and we look forward certainly to working with you.

I think we have got a schedule now that we have come pretty close in the hearing to. We would like at this time, since we have not had any breakfast, to break until 1:00. I understand we have a box lunch upstairs some place, and we will take a half hour for lunch. Instead of the 1:30 to come back, let us reassemble here at 1:00, so we can continue with our next three witnesses.

Mr. STANGELAND. Can I ask just one more question? It will be very short.

In trying to determine repair and maintenance, did you look to any direction from the Minnesota statutes on drainage laws, the Minnesota drainage laws? Do you recall?

Colonel BALDWIN. Sir, I would have to—if I may have a moment?

[Pause.]

Colonel BALDWIN. Sir, Mr. Wopat tells me that as this was being developed, we did consult with the State of Minnesota and with the DNR. We were aware of their laws and we did take that into account.

Mr. STANGELAND. I have other questions, and for those who have submitted questions to me to be asked, you will receive the written response from the Corps as soon as we get it, we will mail it back out to you. In the essence of time, we are not going to go through all of them right here today.

Thank you, Mr. Chairman.

Mr. NOWAK. Thank you.

The committee stands in recess until 1:00.

[Whereupon, at 12:30 p.m., the subcommittee recessed, to reconvene this same day, Friday, April 14, 1989, at 1:00 p.m.]

[Mr. Doyle's prepared statement follows:]

DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY OF THE ARMY
(CIVIL WORKS)

COMPLETE STATEMENT

OF

JOHN S. DOYLE, JR.,
PRINCIPAL DEPUTY ASSISTANT SECRETARY OF THE ARMY
(CIVIL WORKS)

BEFORE THE SUBCOMMITTEE ON WATER RESOURCES

COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION

U.S. HOUSE OF REPRESENTATIVES

MEETING ON

THE REGULATORY PROGRAM AND AGRICULTURAL DRAINAGE ISSUES

ST. CLOUD, MINNESOTA

APRIL 14, 1989

NOT TO BE RELEASED UNTIL APPROVED BY THE
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION
U.S. HOUSE OF REPRESENTATIVES

DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY OF THE ARMY (CIVIL WORKS)

Mr. Chairman and Members of the Subcommittee, I am John S. Doyle, Jr., Principal Deputy Assistant Secretary of the Army (Civil Works). I am accompanied today by Mr. David Barrows, Assistant for Regulatory Affairs, and Colonel Roger L. Baldwin, St. Paul District Engineer. I am pleased to be here to represent the Secretary of the Army to address the issues which were raised in your letter dated March 14, 1989. After briefly discussing the Army Corps of Engineers Section 404 regulatory program, its procedural aspects and some recent accomplishments, I will focus my remarks on the agricultural drainage issues which have given rise to considerable discussion between the Corps, the environmental agencies and the agricultural community.

ANNUAL PROGRAM

The Corps regulatory program under Section 404 of the Clean Water Act is a part of the Corps over-all regulatory mission, which also includes authority to regulate all work and structures in navigable waters of the United States, under Section 10 of the Rivers and Harbors Act of 1899, and the transportation of dredged material for purposes of ocean dumping under Section 103 of the Marine Protection, Research and Sanctuaries Act.

About 30 percent of the permit applications submitted to the Corps each year require authorization only under Section 404, 30 percent involve both Section 10 and Section 404, 40 percent involve only Section 10, and less than 1 percent involve Section 103. The Corps evaluates approximately 15,000 individual permit applications per year, issuing or denying about 11,000 permits. The remaining 4,000 applications are either cancelled by the Corps, withdrawn by the applicant, or qualify for a general permit. The Corps also has a growing backlog of pending applications. The number of applications has greatly increased during the last two years as workload exceeds available resources.

The Corps regulatory program also includes an enforcement arm which investigates some 6,000 reported violations annually and inspects permitted activities for compliance with the terms and conditions of issued permits. In January of this year, the Army and the Environmental Protection Agency (EPA) entered into a Memorandumof Agreement (MOA) that will insure that the Corps' limited enforcement resources are used more prudently. The agreement provides a clearer definition of each agency's enforcement role, thus preventing needless duplication or wasted effort.

In addition, the Corps makes about 25,000 jurisdictional determinations each year, in response to citizens seeking to know if permits are required for their proposed projects. Jurisdictional determinations are made in accordance with a recently revised MOA with EPA, which was also signed this January. In addition, the actual wetlands boundaries are delineated using the Joint Federal Wetlands Delineation Manual which was signed just prior to the Jurisdictional MOA and for the first time establish a single methodology between the Army, EPA, the Soil Conservation Service (SCS) and the Fish and Wildlife Service (FWS). Both of these jurisdictional agreements culminate many years of deligent effort by the participating Federal agencies and will go a long way toward ensuring consistency and effective implementation of their respective programs.

Since enactment of Section 404 of the Federal Water Pollution Control Act Amendments of 1972, the Corps regulatory program has been the focus of much attention because of its ability to afford protection to wetlands. As will be noted several times during this statement, the Section 404 regulatory program has been an evolving, dynamic program that has been shaped by judicial decisions, subsequent legislation, national policy, and local or regional concerns that are site-specific/project-specific. Section 404 is extremely broad in terms of waters regulated; it applies to literally all natural or artificially created waterbodies including wetlands. Conversely, the scope of activities regulated under Section 404 is extremely narrow; only projects that involve the discharge of dredged or fill material into regulated waters are subject to Section 404. This jurisdictional juxtaposition is particularly important in understanding the limited capacity of Section 404 to control the drainage of wetlands.

PERMIT PROCEDURES

The Corps authorizes activities through both individual and general permits. Applications for individual permits require considerable evaluation and at times are subject to a lengthy and complex process. General permits are issued for minor activities and require a less rigorous administrative test for each individual project. Enforcement is accomplished through an administrative or legal process. What follows is a more detailed discussion of each of these program areas.

In general terms, permit applications that are broader in scope, or that affect more sensitive waterbodies such as wetlands require an individual permit. This means that the application is subject to an intensive and comprehensive public interest analysis and evaluation. That process includes issuance of a public notice which requests comments and offers an opportunity to request a public hearing. An environmental assessment or in some cases an environmental impact statement is prepared in accordance with the requirements of the National Environmental Policy Act. If the proposed project involves a discharge of dredged or fill material, the State must either issue or waive a water quality certificate under Section 401 of the Clean Water Act. Also, should the project be proposed within a State's coastal zone, it must be consistent with any approved Coastal Zone Management Plan.

An individual permit will be issued to authorize a proposed project unless the evaluation process determines that the project would be contrary to the public interest; that is, the perceived benefits fail to exceed the foreseeable detriments. In which case the permit would be denied. A permit will also be denied if the project fails to comply with guidelines established by the EPA in conjunction with the Corps pursuant to Section 404(b)(1) of the Clean Water Act. The failure to meet 404 (b)(1) guidelines would be based on a determination that the proposed action is not the least environmentally damaging alternative, or would result in the unacceptable degradation of an important aquatic resource, or would not comply with State water quality standards.

General permits may be used to authorize activities whose impacts, either individually or cumulatively, are minor in nature. General permits are frequently used to regulate activities in waters which are less sensitive or where the potential impacts to interstate commerce are less direct. A number of minor activities such as bank stabilization projects and utility line crossings have been identified and authorized by the Chief of Engineers through the issuance of nationwide general permits. To ensure that nationwide permits do not pose an unforeseen threat to significant aquatic resources, the regulations grant Division Engineers discretionary authority to override nationwide permits for particular projects or geographic areas, and to require individual permits. Later in my statement I will discuss in greater detail the prairie pothole region, the nationwide permit for headwaters and isolated waterbodies, and a specific proposal by the St. Paul District concerning discretionary authority.

ENFORCEMENT PROCEDURES

Enforcement actions are taken in response to work done without a permit and work done in non-compliance with the terms and conditions of a permit. Filling activities which have been completed without a Corps permit are usually resolved through either voluntary restoration, or after-the-fact permitting, and when needed through administrative penalties or court imposed civil or criminal penalties. After-the-fact permits are considered only after all other appropriate enforcement responses have been completed.

As stated previously, enforcement is divided between the Corps and EPA under the terms of an MOA. In cases where the Corps is the lead agency for enforcement, it will stop any ongoing work using a cease and desist order and then decide whether to pursue interim protective measures, administrative penalties, or action through the U.S. Attorney. After-the-fact permitting is only used to remedy the violation in about 25 per cent of the cases. And then, only after being evaluated using the procedure for individual permits.

With respect to Section 404, the Water Quality Act of 1987 provided EPA an independent authority to issue an administrative civil penalty for unauthorized discharges. The enforcement MOA also recognizes this new authority as a first consideration before taking other enforcement actions. This new authority will provide a strong deterrent to potential violators.

Non-compliance with Corps permits is usually resolved by either achieving voluntary compliance or, when the non-compliance was inadvertent and of minor consequences, by modification of the permit through an evaluation process. The Water Quality Act of 1987 also provided the Corps with new authority to issue administrative civil penalties for non-compliance with Section 404 permits. We are very near to issuing a proposed rule which outlines our action plan for this new authority.

COORDINATION WITH OTHERS

In addition to requesting information on the procedural aspects of the Section 404 program, your letter sought an explanation of how the Section 404 program was coordinated with other Federal and state agencies. The primary mechanism for coordination is the project specific public notice which in this area is sent to local zoning offices, the Minnesota Department of Natural Resources (MDNR), Minnesota Pollution Control Agency (MPCA), State Historic Preservation Officer (SHPO), FWS, EPA, SCS, adjacent landowners, and any other organization or individual who has expressed a desire to be on the public notice mailing list.

The District Engineer's evaluation of the permit application gives full consideration to the responses from the various agencies. The comments from these agencies bear differing weight dependent on their nature and specificity, and the particular expertise of the commenting agency. For example, the comments of the FWS concerning impacts of the project on fish and wildlife resources will be accorded great deference for that public interest factor. In other cases an agency comment may mandate the permit decision; a denial of water quality certification by the Minnesota Pollution Control Agency requires the denial of a Section 404 permit since water quality certification pursuant to Section 401 of the Clean Water Act is a prerequisite to granting a 404 permit. The EPA works closely with the Corps in implementation of the Section 404 program providing comments and recommendations through the public notice process and by exercising its independent enforcement authorities. EPA also has independent authority to veto proposed permits under Section 404(c). After going through an independent evaluation process, EPA may deny the use of a particular site or override a Corps permit decision that the Administrator determines will have an unacceptable adverse impact on aquatic resources.

In general, deference also is given to local/state permitting decisions as being representative of prevailing land use policies for this factor in the public interest review. Therefore, if the county zoning official and MDNR issue their permits, and the MPCA either grants or waives water quality certification, the Department of the Army will likely grant a permit, unless an overriding Federal interest would be threatened by the proposed project. The Corps experience in Minnesota is that an overriding Federal interest in preventing the unnecessary alteration of wetlands often arises since the state legislature has limited the MDNR's regulatory jurisdiction to inland shallow and deep fresh water marshes, and open fresh water. The resulting regulatory void at the state level for seasonally flooded basins or flats, wet meadows and prairies, shrub swamps, wooded swamps, and bogs has required that the Federal government play a pivotal role in evaluating whether proposed alterations of these wetlands are contrary to the public interest.

SECTION 404 (f)(1) AGRICULTURAL EXEMPTIONS

In 1977, Congress reacted to complaints of over-regulation from agricultural, silvicultural, and mining interests by enacting the Clean Water Act Amendments of 1977. The Clean Water Act endorsed the concept of nationwide permits, provided an opportunity for qualified states to seek approval from EPA to administer major portions of the Section 404 program, and created at section 404(f)(1) exemptions from regulation for specified discharges associated with normal farming, silviculture and mining activities.

As discussed earlier, triggering the Corps Section 404 program is dependent upon an identifiable discharge of dredged or fill material into regulated waters and wetlands. For instance if excavated material from the maintenance of a drainage ditch is hauled to an upland site for disposal, the project may proceed without triggering Section 404 since there is no discharge into a water of the United States. Some ditch maintenance projects do not require a permit for this reason. As a practical matter, however, most drainage ditch projects are designed to bisect wetlands and to sidecast excavated material into the wetlands rather than incur the costs of hauling the dredged material to an upland site for disposal. As a consequence, these ditch projects come within the regulatory purview of Section 404. Some of these projects have proceeded based on the Section 404 (f) exemption provisions, others have been individually permitted, some with modifications, and some have been denied permits because they would result in an unavoidable and unacceptable alteration of wetland values and functions.

There has been considerable discussion and contention over what constitutes "normal" farming activities for purposes of being exempt from regulation. The disagreement between the agricultural community and the regulating agencies has been most pronounced over the issue of maintenance of drainage ditches. All parties agree that Congress explicitly provided that discharges of dredged or fill material would not be regulated when associated with the "maintenance (but not construction) of drainage ditches." The basis of continuing controversy, however, is in defining what activity constitutes true maintenance rather than improvement or enhancement of a drainage system, and at what point the 404 (f)(2) recapture clause triggers a recision of the maintenance exemption.

The recapture clause provides that the exemption does not apply and that a permit is required for any discharge of dredged or fill material that is incidental to "an activity whose purpose is to convert an area of the waters of the United States into a use to which it was not previously subject, where the flow or circulation of waters of the United States may be impaired or the reach of such waters reduced." The Corps regulations provide that the conversion of a Section 404 wetland to a non-wetland is a change in use of an area of the waters of the United States, and that a permit will be required for the discharge of dredged or fill material associated with the construction of dikes, drainage ditches, or other work or structures used to effect such conversion.

For most of the nation, maintenance of agricultural drainage ditches has not been a particularly controversial part of the Section 404 regulatory program. Ditches were either continually maintained, in which case the activity clearly qualified for an exemption, or major modifications were made during maintenance and an individual permit was required. However, in the north central region of the country, particularly North Dakota and Minnesota, there seems to be a history of problems associated with the maintenance of agricultural drainage ditches, that was exacerbated by an extended period of rising water tables and other factors. Ditches that had not been cleaned out for many years began to need attention in the post-1984 time frame. About that time the agricultural community became aware of the Section 404 program's impact on drainage ditch maintenance. In response to these problems a Regulatory Guidance Letter was issued in 1987, which clarified the intent of the exemption provisions, as interpreted by the EPA. This national guidance was later incorporated into the St. Paul District's policy, which was developed in coordination with EPA Region V. Because of the importance of adequate drainage to agricultural practices in Minnesota, the St. Paul District found it necessary to provide quantifiable criteria to use in determining which maintenance work could qualify for the exemption provisions of the Clean Water Act. This flexibility to respond to local needs and problems through regional criteria is important to the Corps Section 404 program.

EVOLUTION OF DISTRICT POLICY ON DITCH MAINTENANCE EXEMPTION

Agricultural drainage in the State of Minnesota has a long history. Originally sanctioned, subsidized, and encouraged by the State government, it is now the subject of great concern due to its impact on wetlands. Wetlands protection is promoted through such State programs as Reinvest-in-Minnesota and waterbank agreements. These State programs are designed to encourage the set-aside of marginal and poorly drained lands by offering economic and other incentives to the land owner. Most of the State's drainage ditches were created between 1900-1920. A 1960's Soil Conservation Service study estimated that there were 21,000 miles of open drainage ditches in Minnesota affecting thirteen to fourteen million acres of wetland.

Maintenance of this network has been sporadic. The majority of ditch cleanout projects which the district has evaluated had not been maintained in the 80 to 90 years since they were built. It is implausible to consider a cleanout of these ditches as constituting "maintenance" since that term clearly envisions a structure or system which is kept in a state of operating efficiency. This requisite state of repair had not been maintained for a variety of reasons including: poor market conditions discouraged farming of marginal land; farming equipment and seeds which were not well suited to farming of hydric soils; the 1930's depression which led to the abandonment of many farming enterprises; and poor design and construction which resulted in some areas never being adequately drained for successful agricultural utilization. For whatever reason, numerous ditch systems were subject to de facto if not de jure abandonment, or suffered from benign neglect as landowners and ditch authorities felt little or no motivation to do the periodic maintenance necessary to ensure the continuance of a functional system. The consequence of decades of neglect has been the extensive silting-in of ditches and the re-establishment of hundreds of acres of wetlands along the ditches and in adjacent low-lying basins.

Approximately 4 or 5 years ago, the St. Paul District noted a resurgence of interest in agricultural drainage. This may have been attributable to improved markets, enhanced technology, several years of rising water tables, or a desire to eliminate small wetlands in order to "square-up" fields for ease of maneuvering increasingly larger farm equipment. For whatever reason, the District noted a distinct increase in ditching activities. In analyzing many of these proposals to determine if they would qualify for the ditch maintenance exemption, the Corps concluded that the exemption was not applicable because the projects were improvements rather than maintenance and the alleged ditch cleanouts would result in converting wetlands to an agricultural use to which they had not been previously subject. Generally, the improvements consisted of new alignments, wider and deeper ditches, and new lateral ditches to encourage the tie-in of additional tile drain systems.

It has been the experience of the St. Paul District that most purported ditch maintenance projects are, in fact, drainage improvement projects that increase the hydraulic capacity of the original ditch, include the construction of new lateral ditches, and facilitate the emplacement of new tile drain systems. All of these features result in the conversion of wetlands to agriculture and as such are not exempt under 404(f).

The finding that these projects did not come within the maintenance exemption was not well received within the agricultural community because projects proponents were then required to seek authorization through the individual permit review process. And, as noted earlier, some of these projects were not approved as they failed to meet the 404(b)(1) guidelines and the public interest balancing test. In order to provide guidance on standards and criteria that would bring a proposed project within the maintenance exemption, Federal, state and local agencies met on numerous occasions to develop a clear policy statement that would recognize legitimate ditch maintenance proposals, but also prevent the unnecessary alteration of valuable aquatic resources. The result of these interagency discussions was the development of a policy shaped largely by the Corps and the Environmental Protection Agency. Final approval of the policy rested with EPA in accordance with a 1979 Attorney General's opinion that the Administrator, EPA was empowered to render the final decision on the applicability of a Clean Water Act exemption. The Corps/EPA policy was issued by the St. Paul District Engineer on November 23, 1987. In essence the policy on maintenance exemptions requires:

> (1) That the ditch be returned to its original condition; that is, along the original alignment, to the same bottom and top width, the same depth, and the same sideslopes to which the original ditch was constructed.
>
> (2) That the ditch be part of an established, on-going operation to ensure that the project will not convert the area to a new use. EPA guidance in this regard was taken from our regulation wherein it states that: "An operation ceases to be established when the area on which it was conducted has been converted to a new use or has lain idle for so long that modifications to the hydrological regime are necessary to resume operations." To qualify for the maintenance exemption it was necessary for the ditch proponent to demonsrate that lands along the ditch had been subject to "regular but not necessarily continuous" farming use. To quantify the requisite degree of use, the district policy set forth dual 51% standards. Regular farming use would be established if it could be demonstrated that 51% of the wetlands adjacent and physically connected to the drainage ditch had been subject to the normal plowing, seeding, cultivating and harvesting agricultural cycle for 51% of the time for which credible records were available. Credible records included aerial photos, crop subsidy records, drainage district records, etc.

Since publication of the policy in November 1987, the District has evaluated approximately 20 alleged ditch repair projects to determine if they meet the Clean Water Act ditch maintenance exemption. Of this total three projects, Sherburne County Ditch #15, Lincoln County Ditch #37, and Murray County Ditch #40 qualified under the maintenance exemption; the remainder involved new construction, or improvements of the original system, or failed to meet the 51% standards.

In recognition that many projects might fail to meet the District's maintenance exemption test because of a recent design change from 1:1 slideslopes to 2:1 sideslopes which enhances stability and reduces erosion, EPA, Region V, encouraged the St. Paul District to consider issuance of a General Permit authorizing the flattening of sideslopes as long as all other criteria of the ditch maintenance exemption were met. In response, the District issued a public notice on December 7, 1987 to solicit comments on the proposed general permit. The comments received to this proposal were largely negative. The primary concerns were the potential direct loss of over 4,000 acres of wetland through the sidecasting of additional excavated material into wetlands in conjunction with the flattening of ditch sideslopes, and the increased drainage capacity which would result from an enlarged top width. The increase in drainage capacity was viewed as having potentially severe adverse secondary impacts on wetlands adjacent to an improved ditch. In light of the fact that so few ditch projects met the baseline criteria of the ditch maintenance policy, it was not deemed prudent to expend limited resources in an attempt to resolve controversial issues and salvage a general permit which was likely to be utilized only on rare occasions. Accordingly, on March 31, 1988 a public notice was issued which announced the withdrawal of the proposal to issue a general permit for the modification of ditch sideslopes.

One subsequent effort was made to modify the District's November 23, 1987 ditch maintenance policy. On 27 July 1988, the District advised the Regional Administrator, EPA, that the dual 51% standards might not treat individual landowners equitably. The concern was that the private landowners may be able to demonstrate continuous agricultural use of his or her lands that are served by a drainage ditch, but may never be able to meet the 51% of wetlands within the project area test since he or she cannot compel other landowners within the watershed to farm their wetland acreage. Consequently, the district proposed to modify the policy by deleting the 51% of area test for individual landowners, and require only that it be demonstrated that the lands served by the drainage ditch had been farmed for at least 51% of the time for which credible records were available. In a letter dated 8 September 1988, the Regional Administrator stated that EPA did not concur with the district's conclusions. EPA has promised that it would forward a re-definition of the term "project area" that would ensure equitable treatment of individual landowners.

RELATED FEDERAL AND STATE STATUTES

Agricultural drainage in Minnesota is subject to regulation by local watershed and drainage district authorities that operate under county and state controls. The primary state agency, the Minnesota Department of Natural Resources, is largely concerned with the construction of new ditches rather than the maintenance of existing ditches, and DNR's focus is on impacts to "State protected waters" rather than all waters. Maintenance is largely within the province of local authorities and is governed by local regulatory guidelines. The Corps is often asked to deny permits because of a contention that the activity would be in conflict with the intent of the provision of the DNR and local regulatory processes, or the U.S. Department of Agriculture's Swampbuster program. While the Corps gives consideration to those programs during the public interest evaluation, the decision to issue a permit does not in any way obviate a permittee's responsibility to comply with those other programs. As a matter of interagency comity, and as a service to the regulated public, the district routinely advises permit applicants to contact other appropriate local, State and Federal agencies to ensure that their proposed projects are in compliance with those agencies' regulatory programs. On the other hand, the Minnesota Pollution Control Agency plays an integral role in the Section 404 permit program since it is responsible for determining if the proposed discharge of dredged or fill material will be in compliance with the state's water quality standards. By denying the requisite Section 401 water quality certification, the MPCA can prevent the issuance of a Section 404 permit. To date, the MPCA has elected to waive 401 certification for most ditch projects. This may change in the future as more definitive water quality standards are established or if a determination is made that drainage ditch sediments contain sufficiently high concentrations of toxic pollutants to invalidate the Section 404(f)(1) drainage ditch maintenance exemption.

NATIONWIDE PERMIT (26) AND PRAIRIE POTHOLES

As described earlier, nationwide permits are used by the Corps to authorize minor activities on a national basis. The nationwide permit designated number 26, was revised and issued in 1984 to authorize the discharge of dredged or fill material into isolated waters or those that are located above the "headwaters" of a stream; defined as that point above which the average annual flow does not exceed 5 cubic feet per second. The principle revision to this nationwide permit included a new requirement for a predischarge notification (PDN) and evaluation process for activities that effect from 1 to 10 acres of a water of the United States. This revision has created several problems nationally, not the least of which is an increase in the Corps workload because of the need to evaluate many more activities than anticipated. Other problems are associated with defining the area of effect, and evaluating the severity of that effect for purposes of deciding if an activity qualifies for the nationwide permit. Those same issues have figured prominently in the prairie potholes region in Minnesota, an area where naturally occurring waterbodies called "potholes" fall within the jurisdiction of Section 404. Because of the potholes size and location in the watershed, activities involving the discharge of dredged or fill material into potholes are usually considered for authorization by nationwide permit 26. The potholes are important to both the agricultural community and the environment because they provide water quality benefits through filtration and nutrient uptake of pollutants that are conveyed in the surface runoff from surrounding heavily farmed fields.

The success of the Corps regulatory programs depends in part on its ability to respond to local problems and needs. The provisions of nationwide permit 26 figure prominently in the prairie pothole region. The discussion that follows provides a good example of the difficulties encountered when competing interests vie for consideration in determining the future uses of unique resources such as prairie potholes.

In late 1988 and early 1989, the agricultural community expressed concern about excessive Federal regulation in the 51-county area of southwestern and western Minnesota known as the Prairie Pothole Region. The concern was triggered by the issuance on December 12th of a St. Paul District public notice proposing that the North Central Division Engineer exercise his discretionary authority to suspend the nationwide permit for headwaters and isolated waters and require that an individual permit be obtained to authorize the discharge of dredged or fill material into these waters. Unfortunately, the public notice gave rise to the interpretation that an individual permit would be required for discharges into all headwaters and isolated waters, including those where the impacts would be less than one acre. In fact, the proposal was not intended to require permits for projects with impacts of less than an acre, nor was it intended to change the existing requirement for an individual permit if the impacts exceeded ten acres in size. The intent was to streamline the administrative burden posed by the PDN process. The PDN process is applicable to projects that have impacts of between 1 and 10 acres. Under the PDN process the applicant is required to notify the District Engineer of the proposed work and the Corps has twenty days within which to conduct an analysis, coordinate the proposal with those resource agencies who have expressed an interest in projects of a specific nature or within specific waters, and refer the matter to the Division Engineer with a recommendation as to whether the project should be allowed under the nationwide permit or undergo the more rigorous scrutiny of the individual permit review process. The experience of the St. Paul District concerning projects that would alter prairie potholes had been that all PDNs resulted in recommendations and determinations that the individual permit process was the appropriate review mechanism. Most proposals would eliminate or adversely effect scarce environmental resources having high value to water quality and wildlife. Therefore, it was concluded that it would be beneficial to both applicants and the Corps if the burdensome PDN process could be eliminated and the individual permit process be initiated immediately upon notification. As noted earlier, this intent was not clearly conveyed and substantial controversy ensued. The proposal was ultimately withdrawn on February 10, 1989, after review and evaluation of the issues raised during the comment period.

Many of the comments received in response to the public notice for the proposed exercise of discretionary authority over the prairie pothole region reflected widespread confusion and misunderstanding of the Corps regulatory program, especially as it applied to agricultural drainage projects. In addition, the public was virtually unaware of the regional conditions that apply to the nationwide permit for discharges of dredged or fill material into waters located above the headwaters of a stream or into isolated waters. These regional conditions were added to comply with the State water quality certification for the nationwide permit. The regional conditions provide for such things as; use of the nationwide permit only if the State has approved a permit under State laws, excluding the nationwide permit for discharges that are outside the jurisdiction of State law or discharges that impact valuable resources such as trout streams, trout lakes, and certain wetlands over 10 acres. These conditions are intended to protect waterbodies that the State considers to have particularly high values or perform important natural resource functions.

To clarify the misperceptions concerning the Corps regulatory program, and to heighten awareness of regulatory requirements, the Corps conducted five public meetings in southwestern and western Minnesota in late February 1989. Approximately 400 members of the agricultural community participated in these meetings and participated in extensive discussions of regulatory programs and their impacts on agriculture. Those who represented agricultural interests believed that the Corps Section 404 regulatory program represented over-regulation, created confusion about the jurisdiction and roles of the Corps, SCS, and the State; and was an infringement upon their property rights. Those representing the environmental perspective believed that the Section 404 program protected water quality values, groundwater resources, and habitat for wildlife.

REGULATORY PROGRAM OUTLOOK

Predictions of future development or changes to the regulatory program are risky at best and probably ill-advised. Nevertheless, there are several potential changes that merit mention. First, the Minnesota legislature is currently considering a report prepared by several State agencies on the desirability of State assumption of the Section 404 program, in accordance with the Clean Water Act. Second, in the past few weeks, proposed legislation has been introduced into the Minnesota legislature which would severely limit the drainage of some of the State's wetlands. The effect of both of these proposals, combined with the proposed establishment by the Minnesota Pollution Control Agency of enforceable water quality standards for toxic pollutants, could shift the primary regulatory control over agricultural drainage from the Federal government to State agencies. Whether these changes will ever occur is conjectural; however, it may well be argued that such a shift is appropriate and desirable since it results in placing regulatory control in the hands of those who are closer to the resources to be regulated, and who have the greatest and most direct interest in ensuring the integrity of the State's resources, and the well being of those who would desire to make use of those resources.

Mr. Chairman that concludes my statement. I would be pleased to address any questions that you or other members of the Subcommittee may have.

TESTIMONY OF DOUGLAS A. EHORN, DEPUTY CHIEF, WATER QUALITY BRANCH, WATER DIVISION, U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 5, CHICAGO, IL; ROBERT WELFORD, FIELD SUPERVISOR, ST. PAUL FIELD OFFICE, U.S. FISH AND WILDLIFE SERVICE, U.S. DEPARTMENT OF THE INTERIOR; GARY R. NORDSTROM, STATE CONSERVATIONIST, SOIL CONSERVATION SERVICE, U.S. DEPARTMENT OF AGRICULTURE; GREGORY ANDERSON, AGRICULTURAL PROGRAM SPECIALIST, ST. PAUL STATE AGRICULTURAL STABILIZATION CONSERVATION SERVICE; AND RON NARGANG, DIRECTOR, DIVISION OF WATERS, MINNESOTA DEPARTMENT OF NATURAL RESOURCES

AFTERNOON SESSION

Mr. NOWAK. The Subcommittee will come to order, and we would like to have our next panel assume the seats in front.

From the United States Environmental Protection Agency, Douglas A. Ehorn, the Deputy Chief, Water Quality Branch, Water Division, Region 5, Chicago, Illinois.

From the U.S. Fish and Wildlife Service, Robert Welford, Field Supervisor of St. Paul Field Office. If he will come forward.

Along with the representative from the U.S. Agriculture Department, Gary Nordstrom, who is the State Conservationist, Soil Conservative Service, and I believe he is in attendance here with Greg Anderson, the Chief Agriculture Conservation Program Specialist of the Agricultural Stabilization and Conservation Service.

And we have one more chair available, and I thought maybe it would be useful for Mr. Stangeland's questions if the Minnesota Department of Natural Resources Director, Ron Nargang, Division of Water, would come forward and sit with this panel, and he will be able to express himself after the U.S. agencies have the opportunity. Let me turn to Doug Ehorn.

Douglas, why do you not lead off and then we will go through and hear everybody's testimony and then give Mr. Stangeland the opportunity for some questions this afternoon?

Mr. EHORN. Okay. Good afternoon, Mr. Chairman and Mr. Stangeland.

I am Douglas Ehorn. I am the Deputy Branch Chief for Water Quality Branch for the U.S. Environmental Protection Agency in the Region 5 Office in Chicago.

I have managed the region's wetland protection program for the regional agency for approximately five years, and this afternoon, I will be addressing my remarks to the role of EPA in the protection of wetlands with special emphasis on the situation here in Minnesota.

Clean Water Act provides for the joint administration of wetland protection programs between the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers.

Under this section of the law, Section 404, the Corps manages the Section 404 permit program and provides for the issuance of permits that allow for the placement of dredge or fill material into waters of the United States, if the activity will not have a significant adverse impact on the environment and is in the public interest.

E.P.A. has a review function and comments on proposed projects and permits and generally works with the Corps of Engineers in implementing the wetlands protection program.

E.P.A. and the Corps of Engineers over the years have developed joint and individual policies and procedures to assure that the requirements of the Clean Water Act are satisfactorily met.

For instance, the EPA and the Corps have developed a joint memorandum of agreement concerning the determination of geographic jurisdiction of the Section 404 program and the application of exemptions under Section 404(f) of the Clean Water Act.

Further, the agencies have developed and are now implementing policies and procedures on wetland delineation methods and enforcement. In all of these joint endeavors, the EPA and the Corps are working to provide a single context for decision-making, and these efforts are very necessary in order to ensure that the regulated public fully understands the roles and the rules under which they are being governed and how decisions are going to be made according to project work.

The regional office in Chicago has continued to develop a wetland program to meet a variety of needs, and we are currently working in six programmatic areas in wetland protection. They are public notice review from the Corps of Engineers public notice, advance identification of wetlands under our regulations at 230–80, public information and outreach efforts. We are working in state program development in order to change the processing of permits from a federal function into a state function, and we are working inter-agency and enforcement inter-agency cooperation agreements.

Over the past five years, these programmatic areas have grown and have been modified to address input from the public. I have with me today a number of publications and information sheets that the region has developed to provide the regulated public with information on the values and functions of the wetlands, and I have put a number of these on the back table for people's information and I have several copies here that the committee may wish to take a look at.

Mr. NOWAK. We will incorporate that in the record.

Mr. EHORN. Okay. In addition to continuing our work with the public, there is considerable work to be done with the state and local governments to find joint solutions to environmental problems related to wetland protection.

To that end, the EPA has provided funds to the Minnesota Department of Natural Resources to prepare an analysis for the feasibility of assuming the Section 404 permit program from the Corps of Engineers.

The Department should be finalizing their report and providing it to EPA for review a little later this year.

At the present time, only the State of Michigan has assumed Section 404 permit program from the Corps of Engineers.

Minnesota Department of Natural Resources has a permit program for wetlands under their state laws and has developed a memorandum of agreement with the Corps of Engineers concerning the joint processing of certain wetland projects.

The state permit program provides an excellent basis for the regulation of wetlands and may provide a basis for future assumption of the federal program.

One of the key issues in protecting the wetland resources in Minnesota is the uniform and timely implementation of the language found in Section 404(f) of the Clean Water Act.

Clean Water Act provides for certain exemptions under the regulations, and I am not going to further my testimony at this point because I think the Corps of Engineers has specifically spelled that out earlier this morning. So, for brevity in this presentation, I will not go through those, except for if you are reading along on a copy of my testimony that I provided, I noted that there was one small error on Page 5, where I said that—quoting from my testimony, i.e. that over 51 percent of the land, that word land should have said wetland area along drainage ditches. I failed to pick that up in proofreading.

Since the formulation of policies between the EPA and the Corps of Engineers dealing with 404 exemptions which include the development of a joint legal between EPA and the Corps of Engineers, and also the St. Paul District's policy, several projects have been forwarded to the Corps of Engineers for review.

E.P.A. has reviewed the action taken by the Corps and found that their practices were quite appropriate and timely. It should be noted that in two projects initiated under the agreement, one in Stearns County and Lac qui Parle Counties, the Corps of Engineers and the EPA have provided sufficient information both to county administration and the public on the implementation of Section 404(f)(1) requirements of the Act.

After being provided this information, certain individuals have nonetheless proceeded with drainage projects without the required permits. To this date, EPA has issued enforcement actions on five individual projects. In all cases, there was sufficient information provided to the project proponents prior to the discharge of dredge material into waters of the United States.

None of these actions have been resolved at the present time. EPA intends to continue working with the Corps of Engineers to implement the clear provisions of the Clean Water Act.

We believe at EPA that wetlands need protection. Over eighty percent of the annual loss of wetlands in the nation are attributed to losses through the agricultural practices. Wetlands provide considerable benefits to the nation for food, fiber, recreational benefits, and EPA's publication, "America's Wetlands are a Vital Link Between Land and Water," provides information that indicates the values and functions of these wetlands.

The wetland protection program is continuing to grow and mature. Every year, the program becomes more comprehensive as EPA works with the federal, state and local agencies to build programs that protect our heritage. There appears to be overwhelming support within Region 5 states by those concerned about the protection of wetlands for broad range of values that they offer.

This is demonstrated by the interest of local governments in developing local ordinances to protect flood plains and wetlands, and by the local groups who call in information to both the Corps of Engineers and the EPA concerning unauthorized fills in wetlands.

While it is difficult to meet the current demands placed upon the agency, EPA is continuing to move its program forward.

This concludes my formal remarks, and I will be pleased to answer any questions at the end of this panel.

Mr. **NOWAK**. Thank you very much.

Who would like to go next to Mr. Welford.

Mr. **WELFORD**. Thank you, Mr. Chairman.

My name is Robert Welford, and I am the Field Supervisor of the St. Paul Field Office of the U.S. Fish and Wildlife Service.

Our office is responsible for reviewing and commenting on many water-related activities, and I appreciate the opportunity to appear before this subcommittee to discuss those activities with respect to the Prairie Pothole region of Minnesota.

I would like to address three main points in my formal testimony. First, I want to emphasize the importance of wetlands as a natural resource and our concern with the continued decline.

Second, I will describe the services, biological expertise on fish and wildlife matters, and how we share that expertise as consultants with other agencies, and, lastly, I would like to relate some achievements in wetlands protection and enhancement in which the Service has cooperated as partners with federal, state and, most importantly, with the landowners themselves.

Congress, in its concern for wetland loss, passed a number of wetland protection measures over the past few years. Examples include the swamp buster provision of the 1985 Food Security Act, commonly known as the Farm Bill, and the 1986 Emergency Wetlands Resources Act.

For many years, the Service has worked to ensure protection of wetlands in Minnesota, particularly those wetlands which provide habitat for migratory water fowl. Approximately two-thirds of the breeding ducks in Minnesota are found in the Prairie Pothole region of the State of Minnesota. Fifteen species of ducks breed in this area, making it some of the most productive water fowl habitat on the North American continent.

These marshes and potholes also provide essential nesting, wintering and breeding habitat for many other species of migratory birds and resident wildlife.

In addition to their importance as fish and wildlife habitat, they are important in maintaining ground water supplies, improving water quality and providing flood water storage.

To date, over 50 percent of Minnesota's wetland habitat has been lost. In recognition of the public benefits of wetlands, Congress supported the federal involvement in wetland preservation in 1934 when it passed the Migratory Bird Hunting and Conservation Stamp Act, commonly referred to as the Duck Stamp Act. This Act established the Migratory Bird Conservation Fund to finance the federal acquisition of water fowl habitat.

Although this was an important step in protecting wetlands, continued loss of wetland resource base resulted in additional efforts to conserve wetlands and, in 1986, the Emergency Wetlands Resource Act was passed and authorized additional methods to finance wetland acquisition.

To develop an ecologically-sound wetland data base to guide decisions regarding policy, planning and management of the country's wetland resources, the Service established the National Wetlands Inventory Project. Among the products of the inventory are detailed maps used by local, state and federal agencies as well as private industry and organizations.

With respect to consultation, it is our role to consult with other federal agencies regarding the biological effects of their activities on wetlands, and I would like to emphasize that the Service acts as a scientific advisor to other agencies and bases its recommendations on sound biological judgment.

Pursuant to the Fish and Wildlife Coordination Act and the Clean Water Act, the Service is responsible for reviewing federally-permitted or licensed actions which could affect wetlands. These Acts require federal regulatory agencies, such as the Corps of Engineers, to consult with the Service and the appropriate state wildlife agency whenever anyone proposes to modify wetlands or other bodies of water through permits such as those required by the 404 of the Clean Water Act.

The Service provides recommendations to the Corps that would prevent or reduce loss of or damage to wildlife resources from the proposed action. As part of the Section 10 404 regulatory program, the Corps also administers a general permit program. General permits may be either nationwide or regional in geographic scope. The Service reviews pre-discharge notifications for general permits, including nationwide Permit Number 26.

The pre-discharge notifications are issued for proposed actions that will affect from one to ten acres of isolated wetlands or wetlands found at the head waters of streams. These two types of wetlands are the ones most susceptible to drainage.

If the Service concludes that the proposed action will substantially adversely affect water fowl habitat, we request that the action be subject to an individual Section 404 permit review process rather than being approved through the nationwide permit system.

Under procedures established for this nationwide permit, any fill activity affecting less than one acre of wetland is not subject to regulation. The ensuing loss of small yet important prairie wetland basins has, in our opinion, passed the point where such activities can be considered cumulatively insignificant.

With respect to the maintenance of drainage ditches, the Service does not usually become involved in applications for agricultural ditch exemptions in Minnesota since such determinations are made by the Corps of Engineers. If a proposed activity is deemed ditch maintenance and, therefore, exempt, no further review occurs.

We do, however, review ditch drainage proposals that do not meet the Clean Water Act Section 404(f)(1)(C) exemption criteria and provide comments and recommendations to the Corps to minimize and avoid impacts to fish and wildlife resources.

During our review of the permit-related matters, the Service works extensively with the Minnesota Department of Natural Resources, the U.S. Department of Agriculture, and the Corps of Engineers on wetlands issues. We, along with the Minnesota Department of Natural Resources, assist the Soil Conservation Service in developing plans for vegetation that will provide wildlife food and cover on conservation reserve tracts.

We are also cooperative with the Soil Conservation Service in making wetlands determinations, and we assist the Farmers Home Administration in identifying existing and restorable wetlands basins. The Service also coordinates with Minnesota Department of Natural Resources and the U.S. Environmental Protection Agency on individual permit reviews.

Finally, I would like to share with you how we have cooperated with federal and state agencies and farmers in restoring drain wetland basins in Minnesota and how we are participating and implementing the North American Water Fowl Management Plan.

Approximately 75 percent of the remaining wetlands in the United States are privately owned. Therefore, wetland conservation must rely on joint public/private cooperative efforts. In recognizing the essential role of landowners in accomplishing wetland protection, the Service has established a program to restore drain wetlands on or adjacent to conservation reserve tracts.

Under this program, in cooperation with the Department of Agriculture, the Minnesota Department of Natural Resources, and the landowner, the Service delineates drain basins, performs the necessary engineering surveys, and completes the restoration measures all at no cost to the landowner.

This program has received considerable support from landowners in Minnesota. In 1988 alone, 1,100 drain basins totalling more than 2,000 acres were restored in the state. North American Water Fowl Management Plan represents another example of public/private cooperation in restoring wetlands.

The Plan presents an international strategy for conservation and management of water fowl through cooperative planning and coordinated management. It also provides a framework for participation of various private organizations and the public in the conservation and management of water fowl.

One of the goals of this plan is to protect and improve prairie wetlands for duck production by ensuring that wetlands basins are conserved along with an adequate amount of nesting cover.

A major component of the program will be to achieve through agreements with landowners to manage their wetlands and other marginal agricultural lands for water fowl.

Mr. Chairman, the Service is very concerned about the continued loss of wetlands. As the biological arm of the Federal Government in fish and wildlife-related matters, we carry out our role as advisor by providing our best biological judgment on how proposed activities in wetlands will affect fish and wildlife resources, and how those affects can be avoided, minimized or mitigated.

Finally, only through cooperation among state, federal and local governments and the ultimate use of the nation's resources, the landowners themselves, can we halt and actually reverse the loss of wetland resources.

We believe that we have made a coordinated effort and a cooperative beginning in wetland restoration under the Farm Bill, and we stand ready to continue and expand on those efforts.

Mr. Nowak. Thank you very much, Mr. Welford.

Let us hear now from the Department of Agriculture, Gary Nordstrom.

Mr. NORDSTROM. Thank you very much, Mr. Chairman, Congressman Stangeland.

I am Gary Nordstrom, State Conservationist for SCS in Minnesota.

I am pleased to have this opportunity to review SCS activities relative to wetlands and agricultural drainage.

First, I would like to summarize these activities, then my staff and I would be glad to answer any questions the committee might have.

My summary covers our wetland activities prior to the passage of the Food Security Act, better known as FSA, of 1985, those activities after the Act and then, finally, SCS' assistance in wetland activities of other agencies.

First, for wetland activities prior to FSA, SCS, under its Public Law 74-46 authorities, has had a long history of providing conservation technical assistance through local conservation districts to farmers, ranchers, and other land users.

Part of this technical assistance included drainage and improvement of drainage on existing farm lands. Since the late 1970s, our technical assistance has been largely restricted to individuals who wish to improve crop productivity on existing farm wetlands.

We also work closely with the U.S. Army Corps of Engineers to ensure the recipients of SCS technical assistance comply with Section 404 permit requirements. In this regard, individual cooperators are informed of their responsibilities in complying with Section 404 permitting as a part of our technical assistance.

Under SCS project-type activities, such as those carried out under Public Law 566, Small Watershed and Flood Prevention Act, our policy recognizes the need for project sponsors to mitigate where wetlands would be altered or destroyed by installing planned works of improvement.

The Act dates back to 1954 and authorizes the USDA to assist local units of government in planning and implementing water resource projects for purposes including flood prevention, erosion control, irrigation, drainage, water-based recreation development, agricultural pollution control, municipal and industrial water supply, and rural water supply.

To date, 19 projects have been planned and authorized for installation in Minnesota and about 51 structures and one million acres of conservation treatment have been installed. Work is currently underway on four additional projects with two additional projects in the planning phase.

Each Public Law 83-566 project undergoes an extensive environmental analysis during the planning process. The National Environmental Policy Act, better known as NEPA, procedures are used to document environmental impacts. Wetland issues are a factor in the project formulation because structural measures to control flooding are, by necessity, often located in wet areas.

Wetland mitigation or wetland replacement plans are included as a part of a project when structural measures adversely impact valuable wetlands.

Prior to installation of any structural measure, an assessment is made on the need for a 404 permit by the Corps. Most structures require a permit. The project sponsor is charged with obtaining that particular permit. Project sponsors are often frustrated when applying for 404 permits because they find that the proposed project and its environmental impacts are reopened to scrutiny. Often, this requires additional study concerning wetland impacts, suggestions of complete project reformulation and renegotiating mitigation plans.

This is particularly true when a long time has elapsed between the planning phase and the proposed construction start. It would be very helpful to a small watershed project sponsor to have a 404 permit commitment at the time of the original planning. This would avoid many problems now experienced by project sponsors.

I would like now to address wetland activities after FSA or the Food Security Act.

The Food Security Act included significant provisions relative to wetland conservation. One is commonly known as swamp buster. Under this provision, producers who convert wetlands for the purpose of producing an agricultural commodity after December 23, 1985, lose their eligibility for certain USDA program benefits.

Among others, these benefits include loans, crop insurance, deficiency payments, and disaster payments. The Act defines wetland as an area that has a predominance of hybrid soils and that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support and under normal circumstances does support a prevalence of hydric vegetation typically adapted for life in saturated soil conditions.

This definition is based on three criteria. The presence of hydric soils, the land's hydrology, the ability of the land to support hydric vegetation. SCS has decided to apply this wetland definition to all aspects of SCS technical assistance, not just to administer the wetland conservation provisions of FSA.

We are, for example, in the process of revising our policies concerning technical assistance on drainage to conform with this definition. SCS hopes to publish this revised policy within the next several weeks.

U.S.D.A. has published a final rule on September 27, 1987, implementing the Wetland Conservation Provisions of FSA. In adopting the final rule, consideration was given to over 8,000 comments received in response to the interim rule. Conclusions reached as a result of an inter-agency pilot study conducted to determine the feasibility of applying certain wetland procedures and information obtained by consultation with the U.S. Fish and Wildlife Service.

The final rule requires participants in USDA programs to indicate whether or not they intend to alter any wet area on their farm. Participants declare their intentions on a form called AD-1026. If the participant indicates an intent to alter a wet area, the form is immediately referred to SCS for a determination as to whether the wet area is a wetland for swamp buster purposes.

S.C.S. makes the original determination within sixty days. If the participant indicates no immediate intent to alter a wet area, AD-1026 Form is referred to SCS for a determination of general swamp buster/sod buster compliance when resources permit.

Wetlands converted prior to December 23, 1985, are exempted from the Wetland Conservation Provisions except for certain areas such as potholes and seasonally-flooded or ponded areas that still exhibit wetland characteristics.

Exemptions also exist for wetlands that can be farmed under natural conditions. Wetlands where the conversion was commenced prior to the December 23, 1985, date to artificially-created wetlands and converted wetlands where the conversion has a minimal effect on the hydrological and biological values of the wetland.

Wetlands altered previous to December 23, 1985, can be farmed to the same extent as before the Act, including the maintenance of drainage systems. As of March 31, 1989, about 34,000 wetland determinations have been made in Minnesota and another 19,000 determinations have been made on lands that did not have wetlands.

In order to obtain more consistency and efficiency in making individual wetland determinations, SCS decided in 1988 to make wetland inventories for areas known to have a large number of significant wetlands. We plan to complete the wetland inventory in Minnesota for that portion of the state considered a high priority yet this year.

Our goal is to complete remaining wetland determinations for crop land and adjacent areas by December 31, 1991. The first wetland inventory completed by SCS was in the Red River Valley portion of North Dakota and Minnesota. The inventory has proven effective in reducing farmer concerns and those of the general public about these new requirements.

It also proved an effective process to complete wetland determinations in a prompt and orderly manner.

Now, I would like to turn to SCS assistance in wetland activities of the other agencies.

S.C.S. provides technical services in the implementation of the conservation reserve program and the water bank program administered by the Agricultural Stabilization and Conservation Service.

The CRP is intended to remove nationwide some forty to forty-five million acres of highly-erodable crop land and other lands with farm production through the use of ten-year contracts. Currently, in Minnesota, about 1.6 million acres are enrolled in CRP and that is not counting those that occurred in the last sign-up.

Recently, CRP eligibility criteria were modified to permit certain farm wetlands to be eligible to be placed in the program. Data from the last CRP sign-up is still being tabulated, but estimates indicate as many as 300,000 acres of land were bid for contract under the wetland criteria.

If this acreage is accepted for the CRP, these farm wetlands will be protected for a ten-year period.

Under the water bank program, owners of land in selected areas of important migratory water fowl nesting, breeding or feeding areas that have eligible wetlands with a sufficient amount of adjacent land to protect the wetland and provide wildlife habitat may enter into ten-year contracts with the Commodity Credit Corporation to maintain and protect those wetlands.

Annual payments are made to the owner-operator. During the past ten years, in Minnesota, approximately 1,100 contracts have been entered into on over 55,000 acres of land. The Administration's 1990 budget proposal calls for permanent easements on water bank contracts in lieu of these ten-year agreements.

S.C.S. makes the determination of land eligibility and assists land users develop the conservation plans that are used as the basis for contracts with USDA in both these programs.

On January 10 of this year, the four major federal agencies having wetland responsibilities, Soil Conservation Service, the U.S. Army Corps of Engineers, the Environmental Protection Agency, and the U.S. Fish and Wildlife Service, agreed to use the hydric soil, the wetland hydrology, and the hydric vegetation criteria to implement their wetland responsibilities in the future.

This will help improve the consistency of federal operations but will not completely eliminate all the problems because of the specific exclusions or exemptions provided for in the various laws that they administer.

The Administration is in the process of setting up a wetlands task force to address recommendations by the Conservation Foundation's National Wetland Policy Forum and the President's initiative for no wetland loss. SCS welcomes the opportunity to serve on that task force.

Again, thank you for the opportunity to be here today to discuss this important subject. Our agency looks forward to working with you towards enhancing the protection of our nation's wetland resources. We believe the swamp buster provisions, CRP and interagency cooperation will help to complement President Bush's goal of no net wetland loss.

My staff and I would be most happy to answer any questions at the end of this panel discussion.

Thank you.

Mr. NOWAK. Thank you very much, Mr. Nordstrom. Our next panel member is Mr. Greg Anderson, Chief Agricultural Conservation Program Specialist, Agricultural Stabilization and Conservation Program, U.S. Department of Agriculture. Mr. Anderson, you may proceed.

Mr. ANDERSON. Good afternoon, Mr. Chairman and Mr. Stangeland.

My name is Greg Anderson, Agricultural Program Specialist with the St. Paul State ASCS Conservation Section.

Don Frederick, Minnesota State ASCS Executive Director and Minnesota ASC Committee, regrets they could not attend but due to prior commitments, it was not possible.

My prepared remarks will address the role of ASCS as it relates to wetlands and agricultural drainage. The U.S. Department of Agriculture, ASCS, has five specific areas of involvement when dealing with wetlands and agricultural drainage.

These five areas are: the swamp buster provisions of the 1985 Farm Bill, the commenced wetland exemption provisions as they relate to the 1985 Farm Bill, third party wetland exemption provisions as they relate to the 1985 Farm Bill, the ten-year CRP program, and the ten-year water bank program.

Under swamp buster, if a person converts wetland after December 23, 1985, and uses the area to plant commodities, certain USDA program benefits are not earned for the year in which those commodities are planted.

The Minnesota State ASC Committee feels for first time offenders, loss of USDA Program benefits is too severe a penalty for planting an ag commodity on a converted wetland. The Committee, therefore, feels there needs to be a modification to the law regarding these penalties.

The State Committee also has recommended to Washington, D.C., that wetland acreages one acre or less and farm wetland acreages of ten acres or less be exempt and be allowed to be altered under the swamp buster provisions.

Under the commence wetland provisions, a person, including drainage districts or other government agencies, who believe they started but did not complete conversion of wetlands before December 23, 1985, may be entitled to an ASCS commence wetland exemption provided that drainage project meets the ASCS commence wetland criteria.

In some cases, the Minnesota State ASC Committee feels mitigation of wetlands would be a very practical solution to a commence wetland request. Current ASCS procedure, however, does not provide for this.

A.S.C.S. works very closely with the Soil Conservation Service and the U.S. Fish and Wildlife Service in cases involving commence wetland exemption requests. Under third party wetland exemption requests, and ASCS exemption applies if a person can show that the conversion was caused by a third party with whom the person was not associated through a scheme or device to circumvent the wetland conservation provisions.

A.S.C.S. works very closely with the Soil Conservation Service and the U.S. Fish and Wildlife Service in cases involving third party wetland exemption requests. The conservation reserve program is a ten-year conservation program administered by ASCS to retire highly-erodable crop plans for production for a ten-year period.

Provisions, however, have been recently expanded as Gary Nordstrom explained to allow certain wetlands and crop wetlands into the conservation reserve program. Program participants receive annual payments each year for ten years and up to 50 percent of the cost to establish the conservation cover on the acreage.

A.S.C.S. again works very closely with various local, state and federal agencies in administering the conservation reserve program.

The water bank program is a federal program administered by ASCS and designed to protect certain wetlands from drainage by enrolling the wetland in a ten-year water bank agreement.

Program participants receive annual payments for participating in the water bank program, for conserving and for protecting wetland from drainage, filling, berming or other land use practices which would destroy the wetland character of the area.

Again, ASCS works very closely with the Soil Conservation Service and the U.S. Fish and Wildlife Service in administering the federal water bank program.

This concludes my formal remarks over the five areas. I would again be happy to answer any questions after the panel.

Mr. **Nowak**. All right. We will take questions after Mr. Nargang's testimony.

Mr. **Nargang**. Mr. Chairman, members, for the record, I am Ron Nargang, Director, Division of Waters, Minnesota Department of

Natural Resources, and I, too, appreciate the opportunity to address the committee today.

I have submitted to the committee a set of detailed comments that respond, I think, in total to the questions that I received in writing from the committee as well as a packet that probably tells you more than you ever wanted to know about wetland regulation and other regulation done by our agency in Minnesota.

I think, Mr. Chairman, given the discussion that has gone on here today and the fact that I would prefer not to have to read through that testimony for you, I am going to digress somewhat and maybe try to capsulize some of the observations I have about the discussion as it has taken place and perhaps offer some suggestions for the committee's consideration.

By way of just a quick background, our division is no stranger to regulation. We manage the development of all shorelines in the State of Minnesota. We are involved in regulating the appropriation of surface or ground water across the state. We regulate all flood plain management and of most particular interest to this committee, we hold the regulatory authority over the alteration of the course or cross-section of any protected water in the state.

And I should point out that our protected waters differ substantially from those identified under 404. Included in your packet is an example of the protected water inventory map for Stearns County, and you can look at that at your leisure, but that is the base map that is used for determining the scope of our regulatory authority, county-by-county, across the state and was established through a detailed hearing process conducted in the 1970s in each county in Minnesota.

As I sat and listened to the testimony today, I think, Mr. Chairman, the thing that encourages me the most is the continuous reference to finding a balance point in the issue that is before you, and some may view that as an easy way to dodge the issue, but, in fact, I think as we look at regulation, at balancing the need between environmental protection and the reasonable right to develop and utilize the resource, balance is, in fact, the key word.

We somehow have to find a fair and equitable way to treat the public and in their rights to utilize their land and the other resources in this state, and also to ensure that broad public interest in the protection and management of those resources.

I am absolutely convinced it will do us no good, we will make no progress towards solving the problem, if we dig trenches and begin to throw stones at each other, and in too many cases in these drainage issues, that is what the debate has deteriorated into. It has deteriorated to an all-out battle between agencies and public involved, and it gets us no where toward viable resolution of the issues.

In the way of observations and suggestions, as you proceed with trying to resolve this, I would like to start, I guess, focusing on the discussion that has occurred here about the right to maintain. The right to maintain drainage systems, the right to maintain the use of land for agricultural production, because I think that if we are honest with each other, the fact is that if the ditch systems in Minnesota and in North Dakota and in other areas of the nation had been maintained, we would not be sitting in this room today.

In fact, we have to recognize that the right to drain carries with it a heavy responsibility to maintain those rights with time, and that has certainly been emphasized by recent Supreme Court ruling in the State of Minnesota, Christianson v. State of Minnesota, that resulted over the establishment of the protected waters that you have on that map before you, where an individual had a water designated as a protected water. He challenged that designation because there was a drainage system, a private drainage system, I might emphasize, that was established on that land around the turn of the century.

It had not been maintained. The wetland basin had been re-established. Minnesota Supreme Court ruled clearly and decisively that that landowner had forfeited his right to drainage through failure to maintain, and further ruled that the re-establishment of the riparian rights and the public interest in those riparian rights was superior to the individual's right to drain.

Now, I want to emphasize that is a ruling that applies to a private drainage system. It has not been carried to the extent of applying to a public drainage system in the state, but it raises the question, if we fail to maintain, do we retain the right, and I think that is one of the core issues that we are discussing here.

Regardless of what happened in the 1930s or the 1940s or the 1950s, if, in fact, we have failed to maintain those systems, it has led us to this debate. The wetlands would not be there, they would not be the subject of debate, if those systems had been properly maintained.

Second, I would suggest that anything we do in wetland management, resource management, in general, has to include a strong continuous element of mitigation, and I say that for two reasons.

First, I think we have to acknowledge that there is going to be wetland encroachment. I think it would be folly for any of us to assume that we can proceed with economic development in this state or nation, that we can proceed with road construction and, in fact, that we can proceed with the viable and thriving agriculture without some encroachment on wetlands.

We have got to accept that as a reality. I think folded in with that, then, we have to ask the parties that are going to encroach on those wetlands to accept the total cost involved in that encroachment, and I would suggest to you that historically the landowner has borne only part of those costs.

Basically, they have borne the physical costs of drainage, installing the ditch or installing the tile line, and, in fact, the public has borne the remainder of the cost, and those costs have been high.

I have right now on my desk requests for some $24 million worth of flood damage reduction assistance in the state and that number will continue to go up. That is a public cost that is not totally associated with wetland drainage, but I would suggest that every time we take one of those storage basins out of the landscape, we increase the public cost for flood control.

In Minnesota, we have a very viable program called the Clean Water Partnership. It is aimed at dealing with contamination from non-point sources of pollution to surface waters. It is a very expensive program. It is a very necessary program. Again, it is a program that is in large part there as a result of the public costs incurred through drainage of wetlands.

We removed those natural filters from the system. We are going to have to deal with the contaminants and the sediment once it reaches our surface water bodies, and we can spin stories about that with programs of the U.S. Environmental Protection Agency, with the ACP Program in agriculture. The public has historically borne a large part of the costs associated with drainage.

Mitigation would require a landowner—would allow him to use his land, but would require him to face all of the costs involved up front at the time the decision is made.

I think the other opportunity that mitigation offers is for us to build local government into a much stronger role in controlling their destiny in water management. You heard testimony this morning about the current effort underway through county government to essentially evaluate the water problems that they face locally and make some intelligent and well thought-out decisions about how to manage those problems.

I think there is an opportunity within this mitigation area to delegate that mitigation authority to a local unit of government. Let them take responsibility for balancing the wetland base within either the watershed or within the political subdivision that they are responsible for.

Put them in the role of making a decision on the trade-off that is involved through the loss of a wetland, its restoration and those other public costs that we were talking about.

Third, I think you have got to face the reality of the need for compensation. Minnesota's wetland protection program essentially defines 500,000 acres of wetlands that have been called high-value wetlands and are protected under state law.

The way our mechanism is established is that if a landowner comes in for a permit to drain one of those protected wetlands, he immediately becomes eligible for compensation under the state water bank program. Framework very similar to the federal program, but it is linked directly to the drainage prohibition.

We then are required to offer that landowner three forms of compensation. Outright fee acquisition, twenty-year easement or perpetual easement. And, typically, I think you find the landowner much more agreeable to the regulation he faces under that program if he knows that there is viable compensation available for the land that is covered by the regulation.

Finally, Mr. Chairman, no matter what you do in proceeding to resolve this issue, I would hope that you keep in mind the potential that we have for major policy conflicts across this country.

I think that we can pretty quickly agree in this room that the single largest problem facing agriculture over the last twenty years has been the inability to get a fair price for a product, largely because of surplus production. I say that we can pretty quickly agree on that because I think the 1985 Farm Bill represented a consensus of opinion that, in fact, that was the problem facing agriculture in this nation.

The result has been the most extensive Farm Bill in the history of this nation, and I hear estimates running all the way from $52 to $58 billion a year in costs under that program. To do what? To provide price supports. To take land out of production. To control the commodity production. To take marginal land out of production to benefit the resource.

I fear that if that program works and farm prices respond, we then have fueled the desire to put additional land into production and we create the potential for a tremendous conflict between our wetland management policy and that food policy represented by the 1985 Farm Bill.

I want to encourage you to avoid that because I do not know we explain that to the public, if, in fact, we allow additional land to be brought into production at the same time that we have got that Farm Bill aimed at controlling production and, in fact, removing land from production.

Mr. Chairman, I think, also, in fairness to the committee, you should be aware that states are liable to look at extending wetland protection authorities. We have a bill pending in front of the Minnesota legislature right now, House File 31. The author of that bill, Representative Marcus Marks, is from Stearns County, wanted to be here today. Midnight tonight is our hearing deadline for bills in the House and Senate. So, he is quite tied up on some rather important decisions and could not appear.

I have included a copy of that bill for the committee's review. It is very much a no net loss wetland policy. It incorporates mitigation. It incorporates compensation, and it has been worked on by both the farm interests and the environmental interests in the state and we will get, I am sure, interim hearings over the summer between sessions.

I think, Mr. Chairman, let me conclude my comments with that and stand for any questions the committee has.

Again, I appreciate the opportunity to address you.

Mr. Nowak. Thank you very much, and I thank all the panelists.

Your summary, I think, really some of the things we have looked at over the last few weeks, as we began these hearings and come to the same type of conclusions, when you look at the whole program. There has been a lot of conflicts and how we resolve those conflicts to do what the President's proposal of no net loss without any resources to either mitigate or compensate, as you mentioned in your statement, becomes very evident that there is a shortfall in that whole program process, and I—we had the opportunity to talk to the Conservative Forum people, the Executive Director, in Washington the other day, and Mr. Reilly, who is now your EPA Administrator, tried to bring that to their attention, as they go into now the subcommittee work to come up with both administrative changes that are existing in the various units and some of them are here today on the federal side and also look at the legislative changes that we are going to be trying to make to correspond for a whole program change that makes some sense and stop some of the overlapping and the over-administrating in some areas that have been, you know, complained about over the years.

But I think your testimony along with the material that you have submitted will be helpful, especially to the other members who would not be here today.

I have a question about mitigation and we sort of touched on at our last hearing. They talked about quantity does not mitigate totally, and unless you have quality mitigation, you really do not accomplish no net loss.

I wonder, could you comment on that? You touched upon the comparisons and also, you know, the value of the nutrients in the soil and what that does.

Mr. **Nargang**. Mr. Chairman, I think that is a very valid question, and I guess I would add a third element to that. I think in looking at mitigation, we need to look certainly at quantity, raw acreage, but we also need to look at the quality. What benefits will that wetland resource provide, and that begs a third question; that is the diversity because if we look particularly at the wildlife habitat question, wildlife is very dependent on having a diverse wetland resource of complexes of different types of wetlands if, in fact, it is going to provide well-rounded habitat.

So, I think in any mitigation effort, those three elements need to be addressed.

Mr. **Nowak**. It was interesting this morning when we were flying over the—I guess we moved out about thirty miles from St. Cloud, going west. We found some areas that were small and some were ice covered, small lakes and wet areas, and there were some areas where there was a great deal of either ducks or birds or geese or something on the surface already covering, you know, a large portion of the whole area, and those areas seemed to me the ones that had vegetation around it, where you had an area of just water next to a cultivated or closer-cultivated farm, it seemed to be rather empty, and I do not know if that was an accident of the day, if those birds only go to the wooded areas in the beginning of the year and, you know—do you know why that would have occurred?

Mr. **Nargang**. Well, Mr. Chairman, someone from Fish and Wildlife Service may want to respond to that, but I think what you have done is touched on the key point. The water area of a wetland is not the sole need with regards to habitat. You are certainly corresponding upland habitat to go along with that.

As that area of habitat shrinks around the water body or wetland body, we run the risk, number one, of creating a predator sink, if we are looking at it primarily from the standpoint of wildlife habitat. The fringe vegetation that is involved is critical in the filtering of sediment, is critical in the filtering of nutrients from runoff waters that reaches those.

So, I think you have touched on one of the key issues associated with both wetland protection and the mitigation question, is that if we are going to lose habitat, we have to look at putting it back in its same form, if you will, so that it meets all of the original capabilities that it had.

Mr. **Nowak**. Mr. Welford, maybe you could touch upon that. Why we had, you know, that variance in our flight over, and also, I wonder if you could describe—it has been mentioned that Minnesota, some areas of Minnesota, is in the flyway.

What is the significance of that in terms of your particular wetlands here or, when I was talking to Mr. Lightfoot, he said there was a large "wildlife reserve" somewhere in his district that had lacked some of the anticipated volumes of birds over the last couple of years?

Mr. **WENSMANN**. Mr. Chairman, could I have Steve Wilds, who is the Regional Migratory Bird Coordinator, respond to your question? He could respond more accurately. He is sitting right behind me.

Mr. **NOWAK**. Anybody that knows the birds well, I am sure.

TESTIMONY OF STEVE WILDS, REGIONAL MIGRATORY BIRD COORDINATOR

Mr. **WILDS**. Mr. Chairman, I think the reason that you see those birds in the area that you described is based on their biological needs at this time of the year.

They are in the migratory state right now. They are moving from one area to another, from the wintering grounds to the breeding grounds. They have to have certain food resources. Those areas are the ones that right now have good populations of invertebrates, that those birds feed on, as well as seeds that are left over from last year's production.

Mr. **NOWAK**. They are not going to breed in the areas that they are sitting in right now?

Mr. **WILDS**. Oh, some of them will. Some of them will use those ponds. They will also move to many other areas on farther north and throughout this part of the state, also.

Mr. **NOWAK**. Okay. Could you just give us a brief description of what the flyway is?

Mr. **WILDS**. Sure. I would be glad to.

Minnesota is a very important water fowl state. A large number of birds move out of the prairie provinces of Canada, Manitoba, Saskatchewan and Alberta, down across the Dakotas and Western Minnesota primarily. Those birds funnel down through those states, across Iowa, down into Louisiana and Arkansas and Mississippi primarily, as wintering areas.

Those birds are referred to as belonging to the Mississippi Flyway. A number of those birds from the prairies also go into the central flyway, which are the Plain states to the west of those. Those are administrative flyways that we have set up to manage the resource primarily, but a large number of birds move in their annual migrations across this state. It is a very important water fowl state.

Does that respond to your question?

Mr. **NOWAK**. I think so. There are more than one flyway? You have got——

Mr. **WILDS**. Oh, yes.

Mr. **NOWAK** [continuing]. From the East Coast to the West Coast, different.

Mr. **WILDS**. We have four administrative flyways across the country. In addition to that, there are many migration paths that the birds follow that do not exactly correspond to those administrative flyways.

Mr. **NOWAK**. Well, they all go down to Florida for the winter in their condos.

Mr. **WILDS**. That is correct.

Mr. **NOWAK**. One other last question, and I will go back to Mr. Nargang, about the right of maintenance.

I understand that, you know, there was a period of time in the last, going back to 1980 or 1981, where you had more "moisture" fall in the area and then, between perhaps 1965 and 1980, there was a lighter than usual amount of moisture coming into the system, and that one of the reasons that was given at least in answer to the question I had was that that maintenance was sort of postponed or not needed in those drier years and now, when the moisture has risen substantially, at least in the five or six year cycle since 1980 to 1985, I guess, or 1986, that the drainage problem may—would—very possibly would not be as severe as it was unless you had that additional moisture coming to the region.

Is that hydrology correct?

Mr. NARGANG. Mr. Chairman, in large part, I think it is. Prior to last year, our last major drought period in the state was 1976. We took an immediate turn-around from that and starting in 1977, ending in November of 1986, we went into the wettest ten year period in the history of this state, and certainly if you have systems that were operating marginally during drier times and you go into that kind of a wet period, the impacts of lack of maintenance on those systems will be much more evident and will have much more effect on the agricultural land, and I think clearly that people saw directly the impacts of the need to maintain those ditches during that wet period.

So, I think that is a fair statement and a fair conclusion to be drawn.

Mr. NOWAK. I suppose the reverse is true. If you run into a five year dry period, you will lessen the impact of those drainage ditches as a factor of removal of moisture.

MR. EHORN, MR. WELFORD, MR. NORDSTROM, MR. ANDERSON, MR. NARGANG—RESUMED

Mr. NARGANG. Mr. Chairman, because the land is simply not as dependent on the internal soil drainage, alterations in internal soil drainage accomplished through the drainage system.

Mr. NOWAK. Yes. Thank you very much. That was very interesting.

Mr. Stangeland?

Mr. STANGELAND. Thank you, Mr. Chairman.

First of all, I have questions here for the Environmental Protection Agency, and since you share responsibility with the Corps for the 404 Program, I am going to ask you some of the same questions I asked the Corps.

For starters, I would like an explanation of your interpretation of efforts to implement or maybe efforts not to implement the regulatory guidance of ditch maintenance.

You know, I can appreciate your mission to protect the environment and preserve wetlands, but I would also like to have you know that the intent behind the Clean Water Act and the regulatory guidance is to recognize those valuable activities, such as normal farming and drainage ditch maintenance.

So, I would like to have you comment on the definitions of maintenance, new use and abandonments.

Mr. EHORN. I believe that when we started taking a look at that program, in dealing with the recapture portion of 404(f)(2), we were clearly looking at situations where wetlands had reemerged throughout Minnesota, that we had not seen evidence that maintenance had taken place, and, therefore, we thought the wetlands had redeveloped along side most of the drainage ditches in the central portion of Minnesota, without looking further north.

After a series of meetings with the Corps of Engineers and other federal agencies and a couple of state agencies here, we were more determined than ever that these wetlands had actually been recaptured and we thought that converting—that allowing exemptions to occur would convert wetlands back into agricultural practices, and, therefore, we did not see that that was an exemption under the Clean Water Act.

And we did a series of site investigations. I came out to the county at least three times to examine ditches in not only Stearns County but a couple other counties, and there is just a great deal of wetland that had re-emerged.

I think if you went back and looked at the State of Minnesota, you would probably discover that ninety percent of Minnesota was at one time a wetland. All of the soil characteristics you need, all of the soil materials that you need, all of the plant material you need and seeds are in the soils, and any time that you walk away from an agricultural field and you have a little bit of moisture, most of that land is going to revert back to its wetland characteristics.

It is there. It is a matter of maintenance.

Mr. STANGELAND. Well, you know, I guess I am a little disappointed in that response. There are those from Illinois and West who tell me facetiously sometimes that this whole country from west of the Mississippi ought to be reverted back to its natural state because it is not worth anything.

You know, those ditches were there. The fact that they had not been maintained, there was really no requirement to maintain them. You have to understand the economics of a county board and the cost of the county board to operate the county, and where they do not have to spend money, they do not spend money. If they did not have to spend money to dig out the silt from ditches, they did not do it, but there are ditches there. They have been there for eighty some years, and I really appreciate, Mr. Anderson, what you have done in your one acre and ten acre proposal.

I am not sure we are going to get anywhere, but in that case at least, when we passed swamp buster, I specifically asked the author of the amendment, what is the intent, and the intent was that we were to bring in no new land into production. We had too much land in production now, but the intent was not to recapture current land that had been producing for 40 to 50 years and all of a sudden because of an act of God and nature, and a lack of probably some foresight on local governments, we have allowed wetlands to recreate.

So, I think this is the thing that I think we have to look at, and it is one of the things that encouraged me with this Conservation Forum's policy guideline. I think you referred to it, Mr. Nordstrom, and in testimony on Tuesday from some of these strong environmental groups that helped devise that, they even all of a sudden recognized that there is a conflict here, and this conflict has got to be resolved, and we question time and again not of disallowing of ordinary maintenance on ditches, if that did not constitute an illegal taking of private property from someone, and there is going to be resolution of that.

What has been your relationship with the Corps in implementation of the 404 Program in Minnesota? Have you ever exercised your Section 404(c) veto authority?

Mr. EHORN. Five years ago, the 404(c) veto located at Savage Bend, just south of Minneapolis, we put out letters of intent that we would exercise that authority and negotiate some contracts through the Minnesota Department of Natural Resources and some private consulting firms to obtain information on the fence located on the Minnesota River Basin.

After completing many of those studies, we did not believe at that particular time that we had sufficient information to complete a 404(c) action. However, during that time, there was negotiations with the state and with Scott County Highway Department to look at the modifications for a project that would bring a road across the Minnesota River through the pre-settlement prairies and the fence located in Minnesota, and there is at least some movement towards moving the road out of the fence situation which would prevent us from having to exercise the 404(c), but we have not—Region 5 has not exercised 404(c) authority in any state at this particular time.

Mr. STANGELAND. The clean-out of ditches is an essential maintenance activity that is needed periodically.

I understand that it is commonly recognized that the flatter side slopes, such as two to one, enhance stability, reduce erosion, therefore should be more acceptable from an environmental standpoint.

I do not understand why there should be objection to doing that work if it is clearly maintenance of an existing ditch with a modern technology that was not there when the ditch was first built eighty years ago. Eighty years ago, most ditches were drilled as cheap as possible, dredged and they were filled one to one. Nobody ever thought about—and probably at a time when more of the topography was a grass-covered topography where you did not have the sheet erosion.

But we have learned something since those days. I am glad Mr. Nargang is here. You know, here is where I think some of our people who we think normally are the defenders of the environment should get together and have a better discussion because Mr. Nargang would be classified in that group of environmentalist protectors as well as you, and, yet, Mr. Nargang recognizes merit to a two to one slope.

You know, I think you ought to be looking at how much damage is done to a wetland when you get a sheet of water coming over it and going into a ditch with no break as opposed to a berm there that allows the water to go out through a pipe. That becomes a settling pond. It becomes a place where water can percolate down, sediments can settle out rather than just sheeting right on into the ditch, and taking a whole lot of dirt with it.

You know, some of these things that—for these farmers and for myself as a farmer and a congressman, make eminently good sense, but because we have got a law that says thou shalt not dump in a wetland, thou ain't going to dump in a wetland.

You know, sometimes a little bit of filling in that wetland, a berm twenty feet wide and a mile, is a little over an acre and a half, you know, a couple of acres, but the way we save the back behind that berm and the wetland, I think it has some merit, and I would hope some of you guys could get together and look at it.

But I would like to have you give us your opinion as to why you and a number of others strictly adhere to maintenance that you will only allow that ditch to be maintained in the same configuration as it was built sixty-seventy-eighty years ago.

Mr. EHORN. Mr. Stangeland, I hope this does not surprise you, but five years ago, when we started this operation, I championshipped the idea of going with the two to one side slopes in order to implement the state law.

Mr. STANGELAND. Why did you back slide?

Mr. EHORN. Through the discussions up here in Stearns County and with all of the state and federal agencies, we looked at that. I asked for our headquarters office to actually put that type of language in the regulatory guidance letter that was issued a couple of years ago, and I also asked the Corps of Engineers to take a look at a general permit that would do that.

That general permit was put out on the street for public notice review, and after receiving a great deal of comment as the Corps of Engineers already explained earlier this morning, that it was more of an administrative burden to go ahead and look at those two to one side slopes under a general permit than it would be to take a look on individual permits.

My own personal opinion is, and while I am not the final authority down in Region 5 or in EPA, is that when permits come across my desk for the two to one side slopes in most cases, I would go ahead and recommend the approval of those types of conditions.

I seem to be a little bit more pragmatic about that than some of the other people. I know that there would be wetlands loss associated with that. I think one of my major concerns on that is not how much more water might be taken off the land. It is how fast you take water off the land when you are doing some of that side slope.

As I went around Stearns County several years ago, during the wet period, and I saw that wetlands up at the head waters of these watersheds were quite dry, only to move down to look at the lower portions of the watershed where we found substantial flooding, it was my opinion that (a) the clean-out of drainage ditches had created problems, (b) that the state requirement that if you discharge—if you cause water to be discharged from an upper part of the watershed to a lower part of the watershed and it creates substantial damage, that the people who created that problem should be responsible for payment of those downstream damages, could not be implemented. There was no way in the state law to implement those.

So, I had and I still have those types of concerns that have not been remedied in my mind.

Mr. **Stangeland**. Well, I think I agree with you, and I think most anyone here, and I know Mr. Ogaard sure would, in that you do not want to rush with a wider or two to one side slope rush more water downstream to flood someone else out.

But that is an ideal region for considering the possibility of a berm with the fill coming out of that two to one side slope, and then a pipe so that the water does not rush off the field, but you do have a ditch that will carry the water once it gets to the ditch.

I think part of the Soil Conservation Service's mission or, excuse me, watershed district's mission is to try to develop holding situations where you do not have a lot of flooding, but a more evenly dispersion of water. That also has its controversies when you end up with people up in the wetlands who do not want to hold the water up there.

So, Mr. Welford—thank you, Mr. Ehorn.

Mr. Welford, your testimony acknowledged that seventy-five percent of our remaining wetlands are privately owned. I think this is extremely important. It points to the need to recognize private property rights while developing incentives for private protection activities and building partnerships between public and private people.

Could you elaborate on your program to restore drained wetlands on or adjacent to conservation reserve tracts? How much money is available under the program? Is it possible to make this a large-scale national effort, and can any of you give me—I know this is one right out of the left field. Can any of you give me an idea of how much wetland we will reclaim under the Farmers Home Administration program where, if a farmer's home mortgage is foreclosed and the property reverts to Farmers Home, then Fish and Wildlife has a chance to put an attachment on that property so that there will either be a perpetual easement on it, on the wetlands on it, or it can be sold to Fish and Wildlife under a wetland program?

Mr. **Welford**. Okay. With respect to the first question, how do we work with farmers in restoring lands in CRP, we have, working with the ASCS and the Soil Conservation Service, we have a mass mail-out to those farmers who have—and the Department of Natural Resources. We mail out a mass mailing to them, to the farmers that restored their lands under CRP. Those that respond back to us, we then get in touch with them, get additional information.

First, we ask them if they are interested in having the Fish and Wildlife Service work with them to restore those drained wetlands. We look at the wetland inventory amounts, getting additional information from the farmer, and those that have restorable wetlands. We have to watch the amount of money that we spend on each one of those. Some of them, you would maybe build a dike, quite a large dike and get a very small restoration, so that we kind of have to be cost conscious in the restoration work, but those that have restorable wetlands, which are economically feasible to restore, we then do the engineering surveys and have the service—we use service equipment or use local contractors to restore those areas, and we have had good luck in Minnesota.

Mr. **Stangeland**. Can you give us any figures?

Mr. **Welford**. Of how much money that was spent?

Mr. **Stangeland**. The money and areas or acreages involved. Your public/private cooperation in restoring wetlands, your working with private landowners, negotiating rights to manage their wetlands, just, you know, what—how large is that program?

What are we talking about in terms of size, in acreage size, and in dollar size?

Mr. **Welford**. Gosh.

Mr. **Stangeland**. Well, there is something—if you have it, you might submit it for the record.

Mr. **Welford**. Okay.

Mr. **Stangeland**. I would not expect you to probably give it to us here today. If you would submit that for the record.

Has your agency—now, I will ask anyone at the table who can answer this one, beyond Mr. Welford, to go ahead, and it is the same question that I have asked the Corps and some others.

Any experience with artificially-created wetlands, either as mitigation or new wetlands use, restoration and creation hold great promise for our effort to have no net loss, and also to the hope that as well as no net loss, that, in the long run, we have a gain in quantity and hopefully quality, and the only way we are going to get a gain is either allowing old wetlands to restore, such as is happening here, which we have some great deal of concern about, but, more importantly, mitigating when is necessary to—for some kind of a development to fill a wetland somewhere.

You know, what is the experience in recreating or creating a manmade wetland, and I realize that you do not create a manmade wetland today and tomorrow it is as good as the one that the Lord created out there, but——

Mr. **Ehorn**. Mr. Stangeland, I would like to at least take the first address on that question.

Over the last couple of years, while we have been prevented from writing a regional policy dealing with mitigation because headquarters, our headquarters office was dealing with the Corps of Engineers on that topic, we have written an informal policy which we feel very comfortable with at the region, which requires mitigation after all of the normal steps are taken under the wetland protection program, which, you know, is avoid, minimize, and then compensate.

So, under that policy that we have, we would like to see 1.5 to 1 mitigation for wetlands lost to—for wetlands restored to wetlands lost.

Coming out of an enforcement experience that we have had over the last couple of years, we produced an EPA fact sheet that dealt with "Protecting the Nation's Wetlands and Your Pocketbooks," is the title. This fact sheet was signed by not only Valdas Adamkus, who is the regional administrator, but was also signed by the division engineers for North Central Division and for the Ohio River Division and was sent out to about 6,500 people.

In that, we state kind of a joint policy that we would like to see worked out in the Midwest towards mitigation, and also we put in there some costs that were apparent to us at that particular time. For instance, we found out in mitigation associated with our enforcement actions that people were paying sometimes 300 percent more in order to build new wetlands than it would take them to protect the old wetlands, the existing wetlands, and move their project to another site.

So, we think it is a very costly type activity that has to go on, but that does not really deal with the drainage ditch issues. Mitigation projects, we are requiring at least on every one of our enforcement actions that that be put in place. It is costing the City of Chicago about $225,000 to mitigate, to build a seven and a half acres of wetland. That wetland, they had to purchase the land at $20,000 per acre, and they are developing those wetlands.

Also, with the North-South tollway that is located in Du Page County, Illinois, 86 acres of wetlands were going to be in the footprint of the highway, and we required our 1.5 to 1 mitigation under that permit that was issued.

So, the Tollway Commission purchased land and also used Du Page County forest preserved property in order to build a 126 acre wetland. Those wetland basins are just now beginning to go on line. The first growing season last year was only marginal. However, there is new wetland plannings that are taking place this spring, and we hope that that is going to be very successful.

Where we have had high success in mitigation is places where we have had existing wetlands, so, therefore, you have marginally to good soils, you have hydrology, and you can go in and you can expand those wetland basins to do a greater function at that site.

I would point out the Campbell Slough located in Itasca, Illinois, where we expanded an existing wetland base by another seventeen and a half acres. We took plants that were rare and endangered species in Illinois and we moved them to that site, and in the first growing season, we got 98 percent of all of the wetland species to produce.

This last year, with the drought, we lost some of those plant species, but we think that they are still in the soils and that they will re-emerge this year. I think, overall, we have about 25 mitigation packages that are either fully implemented or partially implemented that we could provide information on as far as the size, cost, the circumstances of why they were put on the table.

Mr. STANGELAND. We would appreciate that.

Mr. Welford, Mr. Nargang, do you have any experience on man-created wetlands? And I am not talking about reconstituted wetlands, but something that you have had to create or have you seen someone else create, and what is kind of the success rate of that?

Mr. WELFORD. We have this past spring developed quite a bit of or done quite a bit of restoration of drain wetlands. The early indication on that is looks like it is going to be pretty good.

In terms of creating wetlands, we have a couple of very small projects that we work with the St. Paul District Corps of Engineers on on creating some wetlands. The jury is still out on that right now.

Mr. NARGANG. Congressman Stangeland, I think that the experiences of the Department have gone all the way from miserable to very good, depending on the site conditions and depending in large part on our knowledge base.

I recently had the opportunity to look at a wetland restoration project not in Minnesota, but in Wisconsin for belt line construction around the City of Madison, and in that case, they had extremely good success in wetland restoration by stripping the organic material off of the wetland basin that was going to be filled before the fill occurred and using that as the lining for the basin that they were creating, and in a 14-month period, that wetland restored itself just beautifully, and I think that largely reflects on the comments that Mr. Ehorn has made.

You get a seed base down and you get some proper soil conditions established and it works very well.

Our experience in restoring previously-drained basins has been excellent. I might point out that under the Reinvest in Minnesota Program, which is similar to the conservation reserve at the federal level, we are in our second year of eligibility for wetland restoration. There, the success has been very good, and the participation by the farm public has been excellent.

Mr. STANGELAND. Okay. Mr. Nordstrom and Mr. Anderson, swamp buster regulations allow existing drains to be maintained where wetlands were converted before December 23rd, 1985, and no additional wetlands or abandoned, converted wetland is brought into production.

Could you elaborate on this and how do you define abandonment? Does it make sense to treat something as abandoned if it has not been farmed for five consecutive years because it did not make economic sense to farm it during that time?

Mr. NORDSTROM. Okay. Yes, Mr. Congressman.

On the—let me take the abandonment issue first. In the rules in 7 CFR, that is where the guidance is provided from Washington on the abandonment issue, and that is where we find the five year of non-crop production showing up as to whether or not the intent to maintain agricultural production exists.

Is five years an exact or precise number? I do not know. That is the guidance we are currently being provided with and looking at in trying to establish as to whether there is intent to maintain an active agricultural productive base or there is not.

There is a lot of other extenuating circumstances that can come into play. It could be a hardship case where it was not their intent. It could have been an illness in the family. It could have gone into—it could have been a death in the family and the transfer through the courts and what have you, but is five years the right number or not? I do not know.

All I can say is that is the current guidance that we are trying to make that decision on at the present time.

Mr. STANGELAND. The maintenance of ditches is always a subject of considerable controversy. Any time you have got water and water drainage, you have controversy.

I understand the Soil Conservation Service is responsible for the development of the technical standards for these and other conservation practices.

Could you tell us how your technical standards provide for the actual maintenance of a ditch? Do you specify a method, a frequency for clean-out? What is the basis of that determination?

Mr. NORDSTROM. Congressman, I do not have my engineering staff with me. If I may, I would like to submit that answer to that for the record and allow our engineers an opportunity to evaluate and provide you the correct answer rather than me taking a stab at it.

Mr. **Stangeland**. That would be fine.

How do you distinguish between maintenance of an existing ditch and when a ditch needs to be completely redug?

Mr. **Nordstrom**. Again, I think you have to look at the standards in terms of the hydrology of the system that you are dealing with. All those soil characteristics that you are looking at. A number of factors, and again I am trying to give you a very imprecise explanation for what probably an engineer could do a much better job of.

To try to look at all the factors that went into designing the ditch in the first place in terms of what was the intent and purpose of the drainage, how much were you attempting to establish or accomplish, and what are all the factors that play into it in terms of watershed size and a lot of other factors that come into play.

Again, I think the best way to handle or address this particular one would be to again let the engineers review it and submit it to you for the record.

[The following was received from Mr. Nordstrom:]

US Army Corps
of Engineers
Office, Chief of Engineers

Regulatory Guidance Letter

No. 87-7 Date 17 Aug 87 Expires 31 Dec 89

CECW-OR

SUBJECT: Section 404(f)(1)(C) Statutory Exemption for Drainage Ditch Maintenance

1. Enclosed for implementation is a guidance statement on the 404(f)(1)(C) exemption for drainage ditches. This guidance was developed by EPA in cooperation with the Corps.

2. This guidance expires 31 December 1989 unless sooner revised or rescinded.

FOR THE CHIEF OF ENGINEERS:

Encls

PETER J. OFFRINGA
Brigadier General, USA
Deputy Director of Civil Works

DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF OF ENGINEERS
WASHINGTON, D.C. 20314
[illegible]
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

SUBJECT: Section 404(f)(1)(C) Statutory
Exemption for Drainage Ditch Maintenance

1. The discharge of dredged or fill material in waters of the United States associated with specific agricultural and silvicultural activities identified in Sections 404(f)(1)(A)-(F) is not prohibited by or otherwise subject to regulation under Section 404, 301, or 402 of the Clean Water Act (CWA) except; (1) as provided under Section 404(f)(2), or (2) if a discharge resulting from a 404(f)(1) activity contains a toxic pollutant listed under Section 307 of the CWA.

2. Section 404(f)(1)(C) specifically provides that dredge or fill discharges for the purpose of maintenance (but not construction) of drainage ditches are exempt under Section 404.

3. Section 404(f)(2), referred to as the "recapture provision," provides that any discharge of dredged or fill material in waters of the United States incidental to the maintenance of drainage ditches (or other activities listed under 404(f)(1)) must be authorized by permit if it is part of an activity whose purpose is to convert an area of the waters of the United States to a use to which it was not previously subject, where the flow or circulation of such waters may be impaired or their reach reduced.

4. In order to conclude that a given discharge activity associated with ditch maintenance is exempt from regulation, it must be determined both that the proposed activity falls within Section 404(f)(1)(C) and that it is not recaptured under Section 404(f)(2).

5. For purposes of determining whether or not a proposed activity falls under the provision for ditch maintenance at 404(f)(1)(C), the following interpretations will apply:

   a) maintenance of a drainage ditch means the physical preservation of the original, as built configuration of the ditch. (The District may wish to consider issuance of a General Permit to allow for alteration of ditch side slopes in order to provide Best Management Practices to protect water quality. Such General Permit would allow this construction in association with exempted maintenance so long as the bottom depths and widths of the ditches are not otherwise altered.)

   b) maintenance includes the removal of accumulated sediment and debris.

   c) Unlike Section 404(f)(1)(A), there is no "ongoing" requirement associated with Section 404(f)(1)(C). However, facts relating to the current use of an area could be relevant under Section 404(f)(2), and therefore pertinent to whether or not an exemption applies.

d) Because the statute clearly does not exempt "construction" of drainage ditches from regulation under the CWA, ditches being built for the dual function of irrigation and drainage are considered drainage ditches and their construction is not exempt.

6. For the 404(f)(2) recapture provision to apply, both the "change in use" requirement and the "reduction in reach/impairment of flow or circulation" requirement must be met.

7. For purposes of determining whether or not the 404(f)(2) recapture provision is triggered, the following interpretations will apply:

   a) the discharge of dredged or fill material itself does not need to be the sole cause of the destruction of the waters of the United States (e.g., wetlands) or other change in use or the sole cause of the reduction in or impairment of, reach, flow or circulation of such waters. The discharge need only be "incidental to" or "part of" an activity that is intended to or will foreseeably bring about that result.

   b) A discharge of dredged or fill material which converts a Section 404 ~~wetland to a~~ non-wetland is a change in use of an area of the waters of the United States (33 CFR §323.4(c)). For purposes of determining whether a discharge associated with the maintenance of a drainage ditch is recaptured under 404(f)(2), it is necessary to determine whether such maintenance activities would convert wetlands to a use to which the area was not previously subject. Determining the previous use requires a case-by-case assessment which applies a rule of reason to the facts. For example, if an area has been farmed following ditch construction and an effort has been made to farm the land within the originally constructed ditch drainage area on a regular but not necessarily continuous basis, the fact that wetland vegetation has temporarily reestablished does not mean that a continuation of farming after ditch maintenance will result in bringing the area under a new use. That is, the temporary establishment of wetland vegetation within an area benefitted by original ditch construction does not automatically mean that the use to which the area was previously subject should be considered "wetland." On the other hand, a discharge which results in the farming of wetlands for which there is no reasonable evidence that they were ever farmed or where farming was abandoned following original ditch construction, will be considered a new use even where such land was within the original drainage area. For the purposes of this paragraph, an area will not be considered abandoned where farming has occurred on a regular but not necessarily continuous basis.

   c) where the proposed discharge will result in significant discernible alterations to flow or circulation, the presumption is that flow or circulation may be impaired by such alteration.

8. In situations where the potential applicability of a proposed discharge to the exemption under Section 404(f)(1)(C) has been raised to the District, and where the District cannot make a determination due to a lack of pertinent factual information, it is incumbent on those seeking exemption to provide the documentation necessary to establish the facts on a case-by-case basis.

Peter J Offringa
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Brigadier General, U. S. Army
Deputy Director of Civil Works

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David G. Davis
Director
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Mr. **Stangeland**. I have one more.

Mr. **Nordstrom**. Okay.

Mr. **Stangeland**. We have heard the 1985 Farm Bill has slowed the rate of conversion of wetlands to agricultural use. We would like quantitative information that might be helpful in providing some indication of any change in Minnesota since the implementation of the Farm Bill, for example, in terms of land use conversions, acres of land drained per year and perhaps the amount of drainage ditches, and I will submit that one as well with the other ones I submit.

I am going to submit the question on artificially-created wetlands, if you are familiar with any of those at all, and then, the last question, earlier this year, the Corps, EPA, SCS and the Fish and Wildlife Service jointly approved a wetland delineation manual in order to come up with a single uniform federal definition of wetlands.

Have you had any experience with the manual, and in your opinion, do you think it accomplishes the goal?

Mr. **Nordstrom**. I have looked at a copy of that manual. I believe the Corps and the EPA have issued it as of, I believe, March 20th, to their field offices. Our staff in Washington is getting ready to issue it to the SCS. We are expecting that issuance to come around June 1st, but I have looked at it.

The definition that is in there, as I explained earlier in my testimony, basically gives us an opportunity as four agencies to apply the same definition. Again, I would remind you my concern is, though, that with the various laws that each of the agencies operate under and those exemptions that show up in those laws, while you may have a similar definition that you can agree on up front, the actual application under the law in which you operate may, indeed, be different, and I think that is where I want to be very careful in assuming that the agreement of just a definition is going to solve all the problems that may have come out of it.

So, I think we want to look at that one very carefully.

Mr. **Stangeland**. Some questions. A couple for you, Mr. Nargang.

Only one state, Michigan, has assumed administration of the Clean Water Act Section 404 program for the Corps. Any state is able to do so if they so choose.

Based on your recent study, do you have any advice for us on how to make state assumption worthwhile for the state; how do we make it attractive enough for a state to agree to administer the program; is it good policy to pursue this; and will more wetlands be protected?

Mr. **Nargang**. Mr. Chairman, Congressman Stangeland, let me try to pick those up. If I miss some of them as I walk through that, please lead me back to them.

With respect to whether or not it is good policy, I guess that my general feeling about regulation is that the lowest level we can do it is probably the best level to do it, and in that sense, I think that the policy of delegating 404 certainly is sound.

Having said that, I think I need to point out that it is going to be difficult to convince state legislative bodies to accept that responsibility. I had the opportunity to follow Colonel Baldwin to the podium in front of a joint hearing of the House and Senate some weeks ago, when we had a major controversy over 404, and following the exchange between the committee and Colonel Baldwin, I had the pleasure of getting up and explaining that for a mere million dollars a year, that problem could all be theirs.

That was not well received by that committee. I think that, number one, we need to look at the cost factor because that is probably a very realistic cost to the State of Minnesota of assuming 404. It would merely triple the number of surface water acres that we would regulate in this state.

Second, I think that if states are going to accept that delegation, there will need to be some latitude provided in allowing them to enforce in the fashion that they see fit.

One case in point that applies to, I think, either swamp buster or 404, is the treatment of Type 1 wetlands. Basically, wet cropland. I mentioned to you earlier that House File 31, the no net loss bill that is front of the legislature, one significant difference between that bill and what we see in the federal content or federal regulation would—is that that bill would exempt the Type 1 wetlands.

I do not sense any desire on the part of the State of Minnesota to try to get into delineating those basins that are realistically wet cropland.

So, those are two suggestions, and I lost the rest of your question.

Mr. STANGELAND. Well, it was basically how do we make state assumption worthwhile for other states, how do we make it attractive enough for a state to agree, and I gather what you say is that if we provide some of the funding, the state may take over the responsibility.

Mr. NARGANG. Some funding and some latitude on the application.

Mr. STANGELAND. There are those who say that if the State gets the program, we will be less stringent on wetland protection. Then, there are others who say we will be more stringent. My feeling is that maybe the people who are directly concerned can have more input and more direct input on a state level than on a federal level, but I know of the record of this state as it approaches environmental law, and sometimes I think they are probably better off trusting the Federal Government in this matter.

Mr. NARGANG. Mr. Chairman, Congressman Stangeland, I think we assume that it is a given that if we accept the delegation of the 404 authority, you will see stepped up enforcement for one reason and one reason only in my mind, and that is simple availability of the offices to follow up on that enforcement.

I think that the Corps has seen that occur when they have opened new offices in certain parts of the country. People all of a sudden recognize that the Corps is accessible to them to submit complaints about fill or drainage activities that are going on, and I think you would see the same thing happen with the distribution of our area and regional offices across the state.

We are more available and, therefore, you would see more public complaints.

Mr. STANGELAND. Okay. One last one for you, Mr. Nargang.

How does the DNR's protected waters and wetlands permitting program relate to the Corps' Section 404 program? What steps specifically are you taking to make sure bureaucratic red tape is held to a minimum?

Mr. Nargang. Mr. Chairman, Congressman Stangeland, the scope of the 404 program extends much beyond the scope of our regulatory program, and as I mentioned earlier, 404 regulates about three times the surface water area that we regulate under the state program.

What we have done is to negotiate the memorandum of understanding with the Corps of Engineers that basically provides that they ride on our permitting process for those areas where we exercise regulatory authority, and I think that has worked very well.

If we have concerns in the area of interaction with the Corps on 404, they would probably be, number one, the timing on processing of permits. We have some cases where the timing has drug out substantially.

In defense of the Corps of Engineers, I have to say that one of the things that would improve the timing on processing permits and would probably improve the consistency of application, which is going to my second concern, is some staffing for them.

I have absolutely no idea how they keep up with the workload of this permit program. I have got about 51 people in the field that administer our regulatory program. I have no idea how the Corps keeps up with the magnitude of that program with the staff they have.

That brings me to the second concern and that would be consistency. I think we do see some inconsistency between an application of 404, particularly between peat countries of Northern Minnesota and we have got something over five million acres of peat land in the North, and the Prairie Pothole region.

I suspect that is in large part in response to the impending threat of drainage of those lands. Those peat lands are not particularly at risk.

The third area I see of conflict is the one that has been aired adequately probably today already and that is on the two to one side slopes. They are expressly allowed under state law. Our agency encourages the flattening of side slopes and that has caused some conflict in the program.

Overall, our relationship has been very good.

Mr. Stangeland. I just have two more questions, Mr. Chairman. We are going to get you on a plane in good time and you are fleeing back to D.C.

One for Fish and Wildlife. How is the wetland mapping that is being done by SCS and Fish and Wildlife Service being coordinated? Are there more opportunities for these and other federal agencies to coordinate mapping efforts, given that there is now a common, agreed-to-methodology for defining a wetland for federal agencies?

Mr. Welford. You are talking about coordinating with the Department of Agriculture and some of their mapping efforts?

Mr. Stangeland. Yes.

Mr. Welford. I believe that that is occurring now.

Mr. Nordstrom. Yes, Congressman. In the inventory process right now, we have worked and have Fish and Wildlife people working with our inventory teams to maintain that coordination and that consistency.

So, they have become an integral part plus the fact that we have been utilizing as only one of the resources we look at in making those inventories their already-existing wetland inventory maps that have been done in the past.

So, we are trying to look at all that in coordination with them as an agency, so that we do not have a lot of that duplication going on.

Mr. STANGELAND. Another one, Mr. Nordstrom.

You mentioned there would be considerable time saving by speeding the 404 review process as part of the P.L. 566 planning process. Has this been proposed to the Corps and what reaction have you received?

Mr. NORDSTROM. First, let me say that here in the State of Minnesota, we have not found that particular issue to be a real problem. However, I am aware that it has been a problem in some locations in the country.

We think the real issue there is during the P.L. 566 process, we had basically two phases. The planning phase and the construction phase, and depending on the appropriations from Congress for construction, that time can lag between the finishing of the planning and the actual construction start.

What I think is happening there is that we look at it and go through all the NEPA processes and the Corps becomes involved there, but the group within the Corps is their planning division or group that are looking at it from a review of the environmental policy statement.

The group that we go to for 404 is, in fact, the regulatory group, and I think what we have to do is figure out a good way to go to them up front at the planning phase so we have both of their groups fully informed up front in the process to see if we can obtain it at that time rather than wait until we are actually ready to begin construction.

Mr. STANGELAND. Thank you very much.

Mr. Chairman, that concludes my questions, and I want to thank this panel and the previous panels, thank everyone for coming. It is a sticky problem. I am pleased, Mr. Chairman, that you were willing to come here to hear directly from the concerns of the agricultural community, and also take that back with maybe a little bit of temperament as to how we approach the problem, and I think every one of us here recognizes the threat of a loss of wetlands.

But the economic factors that drive us at times, I recall here some time ago, out in North Dakota at a meeting, one farmer got up and said, "Are you going to let us fish or are we are going to let us farm or are we going to fish?" Well, it does not have to be that definitive, I do not believe, and I thank you for coming and thank everyone for being here today, and hopefully this is the beginning of a series of good hearings that allow us to take the proper approaches in the future.

Thank you.

Mr. NOWAK. Well, I want to thank you very much, first of all, for the preparation and the staff time that you put in individually on this, to give us this information and so we can properly try to redefine some of these areas that are broad, and I think this particular problem is really—shows how difficult it is in some of these areas where you do have basic rights and basic conflicts to write a general law to cover so many specifics that you are going to deal with. Whether it is Fish and Wildlife or Water Resource Department or whatever, trying to combine all of that to be administrated properly and fairly to those people out there that really pay our salaries and pay our—for our—look to us for guidance. How vexing these problems can be in the certain region of the country that perhaps when the regulation or the law was written, you had different circumstances, and I can only, you know, relate this to what has happened.

I have had the Great Lakes level problem. A few of you may have read about that. Two weeks before I became a water resource chairman from Buffalo, we had the highest levels in the Great Lakes in the history, since we started keeping these statistics on the levels, and the Lakes went up and, again, it is a sensitive environment.

You know, you are only talking about a two to three foot difference and usually swings of sixty to eighty years. In the year I took it over, it was at its all time high and we had everybody in the Great Lakes from the people living in the condos in Chicago screaming that their basements are wet, to—and a lot of people started losing land and losing the cottages that they built on the lake between 1960 and 1965 when we had a low level and the change just was very dramatic, and they were losing their—not only their docks, but the homes and their beach fronts and everything else, and, of course, they all blamed me for that, and I tried to do what I could, and every mechanical means we had of stopping the Canadians from pouring in a couple of diversions that they have up in Superior to opening the Wellin Canal and letting out as much water as we could in the year, year and a half that we watched those levels and struggled with the issue, we opened up the Chicago diversion, we came to the conclusion maybe we better wait and now that the lake levels have receded about twenty-eight inches, that should have taken, you know, the sixty years I talked about. It took eighteen months, and, so, from that point of view now, I was—I did my job well, you know.

The mechanical things we accomplish probably accounted for one half inch. The other twenty-seven and a half inches were due to God. So, I always open up my statements to those groups that God and I reduced the lake levels twenty-eight inches, but in reality, maybe some of that kind of notice really has affected this community and certainly the drought we had in the South and here over the last two years shows that sometimes we cannot legislate in advance of the anticipated future, and Mother Nature has a little more control than we do in Washington.

But at least we should try to balance anything we do with as much fairness and be willing to say at the end, maybe we went too far in this area, and we have to try to reduce the impacts at least while we have that direct knowledge and input of what could possibly happen because of the regulations that have been brought down upon all of our different constituents.

And Arlan has different problems than I do.

Mr. **Stangeland**. I have to add, Mr. Chairman, because of the time that we had the problem with the levels of the Great Lakes and we talked about one of our colleagues had radium contamination in an aquifer, and as the aquifer got lower, the percent of radium got higher, so we thought, well, if Lake Michigan is so high, maybe we can take and pump some water out of Michigan into his aquifer, raise the level, reduce the percent of radium, and probably reduce the level of the lake.

As soon as we start talking about lowering the level of the Great Lakes, Mr. Nowak also has a lot of hydro-electric interests out there in Buffalo, and they said, do not dare lower that lake because you will lower the lake an inch or two inches, it means *X* many millions of dollars.

So, you know, even Mr. Nowak, here I have got ducks and ditches, he has got high lake levels and hydro demands.

Mr. **Nowak**. And all of our shippers, you know, Buffalo usually depends upon the region to a great extent as a—we were the recipients of all your taconite that is made, I am sure, mined a little north of here, and the coal and the low sulfur coal used to come in, but even larger than that, the impacts were looking at our past and the great steel-making town, the loss of Bethlehem Steel went from 25,000 down to 1,200 jobs in the last four or five of my terms.

And the other large industry we had, of course, was fed directly from the Midwest and that was the—we were at one time recipients of all your grain. We were the largest flour milling area in the world, and that is all gone, partly due to the Wellin Canal.

But, again, we know these impacts can hurt, and we are certainly going to try to seek along with the President a no loss, no net loss of wetlands, but at the same time, we want to try to balance that as best we can and we are going to look forward to try to do that.

One more comment.

Mr. **Nargang**. Mr. Chairman, Congressman Stangeland, thank you. This is on a totally different topic, but given the role that this committee has in oversight of the Corps of Engineers, I would be negligent in not publicly thanking them for the contributions they have made in reducing flood damages in the Red River Valley the last fourteen days.

Congressman Stangeland will see firsthand that if they had not been involved in that process, the damage would have far exceeded anything that we have experienced so far, and I would like to get that on the record here. We appreciate the contribution they made to fighting that flood.

Mr. **Nowak**. Well, maybe we should have had a hearing on that flood control project.

Mr. **Stangeland**. We have had flood control hearings, but they have been of immense assistance in 1977, 1978, 1979 and now, and, you know, I have nothing but the highest regard for the Corps. The Corps is maligned on one hand and praised on the other, and they are good people over there.

Mr. **Nowak**. Well, we will try to, as I say, adjust these as well as we can with all the other information and the other hearings we are going to have around the country. One of—another large impacted area, of course, is Louisiana, and you start the Mississippi up here. In fact, it is right down the street, and we are going to go to the other end of it by the end of this month in a couple of weeks to look at the vast amount of wetlands and intrusion of salt water that they are receiving because of—some because of channeling, some because of Corps projects, some because of oil channels that have been made, and all resulting in a net loss of wetlands and their impacts now are very heavy, too.

So, we will try to do as well as we can, and I just want to thank you very, very much, each and every one of you. For those that have not testified, but have attended today, we certainly want to encourage you to send us your individual experiences in dealing with this problem, and I hope you will be as objective as you can because I know there are always two sides to look at in these conclusions, and I want to again thank you for your time. You certainly have been good citizens today.

Thank you very much.

[Whereupon, at 2:50 p.m., the subcommittee was adjourned.]

[Mr. Ehorn's prepared statement and EPA documents, and the prepared statements of Messrs. Welford, Nordstrom, Anderson, and Nargang follow:]

STATEMENT OF
DOUGLAS A. EHORN
DEPUTY CHIEF, WATER QUALITY BRANCH
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION V
CHICAGO, ILLINOIS
BEFORE THE
SUBCOMMITTEE ON WATER RESOURCES
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION
U.S. HOUSE OF REPRESENTATIVES
APRIL 14, 1989

ST. CLOUD, MINNESOTA

Good Morning, Mr. Chairman and members of the Committee, I am Douglas A. Ehorn, the Deputy Chief of the Water Quality Branch, Water Division, of the U.S. Environmental Protection Agency, Region V Office, in Chicago, Illinois. I have managed the Region's Wetland Protection Program for five years. My prepared remarks this morning will address the Region's role in wetlands protection, with special emphasis on issues of specific applicablity to Minnesota.

The Clean Water Act (Act) provides for the joint administration of the wetlands program by the U.S. Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency (EPA). Under this section, the Corps manages the Section 404 permit program that provides for the issuance of permits that allow the placement of dredged or fill materials into waters of the United States, if the activity will not have significant adverse impacts on the environment and is in the public interest. EPA reviews and comments on proposed projects and permits and generally works with the Corps in implementing the wetlands programs. The EPA and the Corps have over the years developed joint and individual policies and procedures to assure that the requirements of the Act are satisfactorily met. For instance, the EPA and the Corps have developed a joint memorandum of agreement concerning the determination of the geographic jurisdiction of the Section 404 program and the application of exemptions under Section 404(f) of the Clean Water Act. Further, the agencies have developed and are now implementing policies and procedures on wetland delineation methodologies and enforcement. In all of these joint endeavors, EPA and the Corps are working to provide a single context for decision making. These efforts are necessary to ensure that the regulated public fully understands the rules and are provided the most timely decision that can be developed in relation to their proposed work.

The Regional Office in Chicago has continued to develop the wetlands program to meet a variety of needs and we are currently working in six programmatic areas: Public Notice Review, Advanced Identification of Wetlands Unsuitable for Fill, Public Information and Outreach, State Program Development, Enforcement and Interagency Cooperative Efforts. Over the past five years these programmatic areas have grown and have been modified to address the input from the public. I have with me today a number of publications and information sheets that the Region has helped develop to provide the regulated public with information on the values and functions of wetlands.

In addition to continuing our work with the public there is considerably more work to be done with State and local governments to find joint solutions to the environmental problems related to wetlands protection. To that end, the EPA has provided funds to the Minnesota Department of Natural Resources (MDNR) to prepare an analysis of the feasibility of assuming the Section 404 permit program from the Corps. The Department should be finalizing their report and providing it to the EPA for review later this year. At the present time, only the State of Michigan has assumed the Section 404 permit program. The Minnesota Department of Natural Resources has a permit program for wetlands under state law and has developed a memorandum of agreement with the Corps concerning the joint processing of certain wetland projects. The State permit program provides an excellent basis for the regulation of wetlands and may provide a basis for future assumption of the federal program.

One of the key issues in protecting the wetland resources in Minnesota is the uniform and timely implementation of the language found in Section 404(f) of the Clean Water Act. The Clean Water Act provides for certain exemptions from regulations as follows: Section 404(f)(1) exempts farmers from obtaining permits for the discharge of dredged or fill material from normal farming, silviculture, and ranching activities such as plowing, seeding, cultivating, minor drainage, harvesting for the production of food, fiber, and forest products, or upland soil and water conservation practices. Also, this Section exempts the discharge of dredged material when farmers are side casting material into wetlands related to the maintenance of their drainage ditches, including emergency reconstruction of recently damaged parts. However, it should be noted that Section 404(f)(2) states that "any discharge of dredged or fill material into the navigable waters incidental to any activity having as its purpose bringing an area of the navigable waters into a use to which it was not previously subject, where the flow or circulation of navigable waters may be impaired or the reach of such waters be reduced, shall be required to have a permit."

Over the past three years the EPA and the Corps have been addressing how to jointly interpret this portion of the law so that a uniform policy can be established and implemented. The

Corps of Engineers has prepared a Regulatory Guidance Letter that provides the basic statement of procedures to be followed. The latest version of this guidance letter was negotiated with EPA and a copy of the Regulatory Guidance Letter is attached to this statement. In addition, the EPA and the St. Paul District Corps have agreed to a local implementation statement which reflects the requirements of the law as it relates to typical drainage ditches and agricultural practices within the State of Minnesota. That local implementation statement provides that, consistent with the requirement of State drainage law, certain conditions must be met if a project proponent is to be exempted from the permit requirement of the Clean Water Act. A copy of the local implementation statement is also provided as part of this testimony. Basically, the Corps and EPA have determined that a project, to be exempted, must conform to a rule of reason, i.e., that over 51 percent of the wetland ~~land~~ area along a drainage ditch must have historically been used in agriculture and that for over 51 percent of the time there is a clear record that the drainage ditch has been maintained at some regular interval. Both of these conditions must be met if there is be to be a exemption under Section 404(f). If the area and maintenance tests are not met, or the project proposed exceeds the routine maintenance provisions by increasing the capacity of the ditch above that when originally constructed, the project cannot be exempted. New drainage ditches including lateral extensions of existing drainage ditches are not exempted in any case and must be subject to full permit procedures. We believe that this approach is also consistent with requirements under state law.

The local implementation statement was formulated after extensive site visits to drainage ditches in several counties. EPA and Corps staff, traveling with local farmers, observed drainage ditches that had not been maintained for over 50 years, if at all. A review of the State law indicated that there was a requirement for the routine maintenance of the ditches and an annual certification procedure to assure that drainage systems were adequately working.

Since the formulation of that EPA and Corps implementation statement, several projects have been forwarded to the Corps for review. EPA has reviewed the actions taken by the Corps and found their practices to be appropriate and timely. It should be noted that in two of the projects initiated under the agreement, Stearns and Lac Qui Parle Counties, the Corps and EPA have provided sufficient information to both the county administrations and the public on the implementation of the Section 404(f) requirements of the Act. After being provided this information, certain individuals have nontheless proceeded with drainage projects without the required permits.

To date EPA has issued enforcement actions on five individual projects. In all cases there was sufficient information provided to the project proponents prior to the discharge of dredged material into water of the United States. None of the actions has been resolved at the present time. EPA intends to continue working with the Corps to implement the clear provisions of the Clean Water Act.

Wetlands need protection. Over 80% of the annual losses of wetlands in the Nation are attributed to losses through agricultural practices. Wetlands provide considerable benefits to the nation in food, fiber, and recreational benefits. The EPA publication "America Wetlands: Our Vital Link Between Land and Water" provides information to indicate the values and functions of wetlands.

The Wetlands Protection Program is continuing to grow and mature. Every year the program becomes more comprehensive as EPA works with other federal, state and local agencies to build programs that protect our heritage. There appears to be overwhelming support within Region V by those who are concerned with the protection of wetlands for the broad range of values they offer. This is demonstrated by the interest of local governments in developing local ordinances to protect floodplains and wetlands, and by local groups who call to inform both the Corps and EPA of unauthorized fills in wetlands. While it is difficult to meet all the current demands placed on the Agency, EPA is continuing to move its program forward.

This concludes my formal remarks, I would be pleased to answer any questions you may have.

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Illinois, Indiana,
Michigan, Minnesota,
Ohio, Wisconsin

EPA FACT SHEET

PROTECTING OUR NATION'S WETLANDS AND YOUR POCKETBOOK

Did you know that wetlands are unique resources that contribute to the health and well-being of our communities? Did you know that we are losing wetlands at such an alarming rate that the loss is adversely affecting flooding in your neighborhood? Did you know that filling wetlands requires a permit? Did you know that mitigation is required for the loss of wetlands? Did you know that filling without a permit could lead to the imposition of fines and, in some cases, criminal charges?

Wetlands are protected by a variety of national, state, and local laws. A number of these laws directly affect you. This fact sheet has been produced to give you an overview of the wetland protection program, but is not intended to provide a definitive guide to the program requirements of the U.S. Army Corps of Engineers (Corps) or the U.S. Environmental Protection Agency (U.S. EPA).

What Are Wetlands?

"Wetlands" is a general term used to describe a variety of ecosystems which may include prairie potholes, marshes, fens, bogs, wet meadows, and swamps. Wetlands are transitional zones between open water and dry land, making them unique habitats for a variety of fish and wildlife. Wetlands often occur where water is found at or near the ground surface, or in places where the ground is covered by shallow water ranging from a few inches to several feet. Wetlands are not necessarily wet all year--some are known to be dry during certain seasons. For this reason, the casual observer may not always be able to recognize or correctly identify wetlands.

Wetlands are defined by regulation as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." There are several tools available to help interpret this definition. The U.S. Geological Service has produced topographic maps which indicate areas likely to be wetlands and the U. S. Fish and Wildlife Service has prepared National Wetland Inventory maps in an attempt to inventory large wetland areas throughout the United States. In any case, the final decision on whether an area is a wetland that requires a permit for a fill activity lies with the Corps and the U.S. EPA. In the State of Michigan, the Michigan Department of Natural Resources shares certain jurisdictional authority with the Corps. Maps are available for public review at most Corps and EPA offices. If given advance notice, the Corps and EPA can make these wetland determinations for specific sites.

Why Are Wetlands Important?

Historically, the relationship between humans and wetlands has been based on unfounded misconceptions about the importance of wetlands. From early on, farmers, land developers, industrialists, and businesspeople have traditionally viewed wetlands as disease-harboring wastelands. Also, wetlands were considered "cheap" land that provided economic opportunity, especially in the urbanizing areas. As a result, millions of acres of the nation's prime wetlands were dredged, filled or drained in favor of roads, homes, farms, industrial complexes and commerce centers. While these activities provided certain immediate economic benefits, an immeasureable loss occurred--one that will be felt by society for generations to come.

In their natural state, wetlands can provide a multitude of benefits, including flood and erosion control; water purifucation; breeding, spawning, nursery and feeding areas for fish and wildlife; sediment control; esthetic beauty, as well as educational, recreational and research opportunities. In some places, wetlands can also serve as recharge areas for underground sources of drinking water. All of these benefits contribute in some way to a healthy and stable economy.

Without wetlands, the water upon which we rely for drinking and bathing will not be clean and clear, recreational opportunities will quickly decline, and nature's own flood control mechanism will be permanently lost. In short, preserving wetlands makes economic sense not only for a select few, but for all of us who stand to gain from the services they provide. When the natural services of wetlands are lost, someone, generally the public, has to pay to construct artificial systems to replace the lost services or pay for damages from flooding.

Wetland Regulations and You

There is a variety of wetland laws and regulations that may directly affect you and the activities you may be about to undertake in a wetland. As a precautionary measure, you should become familiar with the applicable regulations long before beginning any construction activity in a wetland. Failure to comply with the law could mean a substantial fine or other penalties for you or the organization you represent.

At the National Level...

Wetlands are regulated through several laws, the most widely applied of which is Section 404 of the Clean Water Act. Enacted by Congress in 1972, Section 404 regulates the discharge of dredged and fill material into waters of the United States, including wetlands. U.S. EPA and the Corps jointly administer the Section 404 program. Congress gave the Corps authority to issue permits that allow the placement of fill for projects deemed to be in the public interest. In most cases, the Corps has authority which exceeds that of your local or State government; therefore, it is best to contact your local Corps District Office. A list of Corps offices is attached to this fact sheet.

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Any individual, company, corporation, or government entity planning construction or fill activities in waters of the United States, including wetlands, must first obtain a permit or other permission from the Corps. Examples of such activities may include:

- placement of fill such as rock, soil or sand that is necessary for construction of structures or impoundments;
- site development fills for recreational, industrial, commercial or residential properties;
- fills for causeways, road fills, dams, dikes, artificial islands, property protection and reclamation devices (i.e., riprap, groins, seawalls, breakwaters, etc.);
- fills for construction of ponds, intake or outlet pipes; and
- any other materials discharged into or excavated from a wetland.

Section 404 requires that all adverse impacts be evaluated before dredged or filled materials can be discharged to waters of the United States because direct disposal of such materials may destroy or significantly alter natural habitats and decrease the diversity of plant and animal species found in those waters. Specific information on how to evaluate these impacts are found in regulations prepared by the Corps and U.S. EPA.

In reviewing your permit application, the Corps is required to consider these factors:

- economics
- conservation
- general environmental concerns
- historic values
- fish and wildlife values
- flood damage protection
- food production
- land use
- navigation
- recreation
- water supply
- energy needs
- safety
- needs and welfare of the people

Permits will be granted where the proposed projects are found not to be contrary to the public interest. The Nation's resources must be protected and all environmental, social and economic factors must be considered. To ensure that all environmental factors are carefully weighed, the U.S. EPA, the U.S. Fish and Wildlife Service, and State and local agencies review all public notices for projects to ensure that the Corps has considered and appropriately applied Clean Water Act regulations.

If you are planning any activity that may affect a wetland, you must first contact the nearest Corps office. Before submitting a permit application, you may request a preapplication conference with the Corps, U.S. EPA, and U.S. Fish and Wildlife staff to discuss your proposed activity. By planning ahead, you will save valuable time and resources.

At the State and Local Levels...

In some cases, States and localities have promulgated their own laws, regulations, and policies that are more comprehensive than those of the Federal government. Again, before you fill or discharge to a wetland, contact your State's water pollution control agency and your county planning or zoning department to get the facts. Special permits or regulations may apply in your particular area.

Consider Alternatives Before You Fill

In most instances, alternatives exist for individuals planning to fill or develop wetlands. For example, upland areas may be found adjacent to or near wetlands. Because of the unprecedented heavy loss of wetlands and the subsequent loss of critical habitat for fish and wildlife, as well as flood storage capacity, U.S. EPA Region 5 favors the replacement of wetlands lost due to construction projects. The cost of mitigating the impacts of a project can significantly increase the project's final cost and should be factored into the economic decisions that bankers and builders make. Recent experience with mitigation/wetland replacement projects indicates that it could cost up to 300 percent more to fill a wetland for a project rather than building the same project at an upland site. Upland areas are often more suitable for construction because of soil and water considerations, and they do not require a Corps permit before construction. By selecting alternate sites, you will save time and resources, and provide a valuable public service by protecting a quickly vanishing, precious natural resource.

Caution

Under Section 309 of the Clean Water Act of 1987, Congress granted the Corps and U.S. EPA expanded enforcement authority for illegal discharges of dredged or fill materials. Under the Act, failure to comply with Federal regulations by filling wetlands without the proper permit can result in administrative penalties of up to $10,000 a day for each violation, with a maximum fine of $125,000 for each violation. For more serious violations, both U.S. EPA and the Corps can seek higher civil penalties and even criminal sanctions through the U.S. Department of Justice and the Federal Courts. In short, wetland laws will be vigorously applied and enforced.

In addition, the Corps and U.S. EPA can require that violators restore or compensate for wetland acres lost through unauthorized activities. The cost of restoring a wetland to its natural state can be substantial, ranging from thousands to even millions of dollars. For your own protection, understand and follow wetland regulations carefully before you begin any activity in a wetland. Failure to do so could be a costly mistake.

Summary

- Wetlands are protected under Federal and State laws.

- Wetlands are valuable and provide significant ecological and esthetic contributions to your community.

- If you are thinking about filling a wetland, you should inquire about obtaining a permit.

- The U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers have joint responsibilities in regulating wetlands.

- Alternatives and project mitigation must be considered for all Section 404 projects.

- There will be vigorous enforcement action taken if you fill a wetland without a permit. Enforcement actions can be in the form of restoration of sites, stiff fines, or criminal penalties.

- If you are involved in the financing, planning, or permitting of a project, you should make all participants aware of their responsibilities. Permitting takes time; to avoid unnecessary delay, please contact the appropriate Corps office early in the planning process. By doing so, you will protect valuable wetlands and your pocketbook.

June, 1988

For More Information

For more information about how to apply for a U.S. Army Corps of Engineers permit contact:

U.S. Environmental Protection Agency
Wetland Coordinator
230 S. Dearborn Street
Chicago, Illinois 60604
1-800-572-2515 (Illinois)
1-800-621-8431 (Indiana, Michigan, Minnesota, Ohio, and Wisconsin)

In Illinois:

U.S. Army Corps of Engineers
Chicago District
219 S. Dearborn Street
Chicago, Illinois 60604
(312) 353-6491

U.S. Army Corps of Engineers
St. Louis District
210 North 12th Street
St. Louis, Missouri 63101
(314) 263-5703

U.S. Army Corps of Engineers
Rock Island District
P.O. Box 2004
Clock Tower Building
Rock Island, Illinois 61202-2004
(309) 788-6361 ex. 372

In Indiana:

U.S. Army Corps of Engineers
Detroit District
P.O. Box 1027
Detroit, Michigan 48231
(313) 226-6828

U.S. Army Corps of Engineers
Louisville District
P.O. Box 59
Louisville, Kentucky 40201
(502) 582-6461

In Minnesota and Wisconsin:

U.S. Army Corps of Engineers
St. Paul District
1135 U.S. Post Office and Customs House
St. Paul, Minnesota 55101-1479
(612) 220-0376

In Michigan:

U.S. Army Corps of Engineers
Detroit District
P.O. Box 1027
Detroit, Michigan 48231
(313) 226-6828

Michigan Department of Natural Resources
Land and Water Management Division
Stevens T. Mason Building
P.O. Box 30028
Lansing, Michigan 48909
(517) 373-1170

In Ohio:

U.S. Army Corps of Engineers
Pittsburgh District
Federal Building
1000 Liberty Avenue
Pittsburgh, Pennslyvania 15222
(412) 644-6872

U.S. Army Corps of Engineers
Buffalo District
1773 Niagra Street
Buffalo, New York 14207
(716) 876-5454 ex. 2309

U.S. Army Corps of Engineers
Huntington District
P.O. Box 2127
Huntington, West Virginia 25721
(304) 529-5487

YOU CAN HELP!

Get to know a wetland and experience the thrill of hundreds of ducks taking to the wing. Listen to thousands of frogs serenading on a summer's evening. Discover the delicate beauty and dazzling colors of wetland flowers. Visit a wetland near you.

You can help protect our nations wetlands by simply learning and caring about them.

You can take an active role in identifying activities threatening wetlands by contacting:

Wetlands Coordinator
Water Division
230 S. Dearborn St
Chicago, IL 60604
(312) 353-2154

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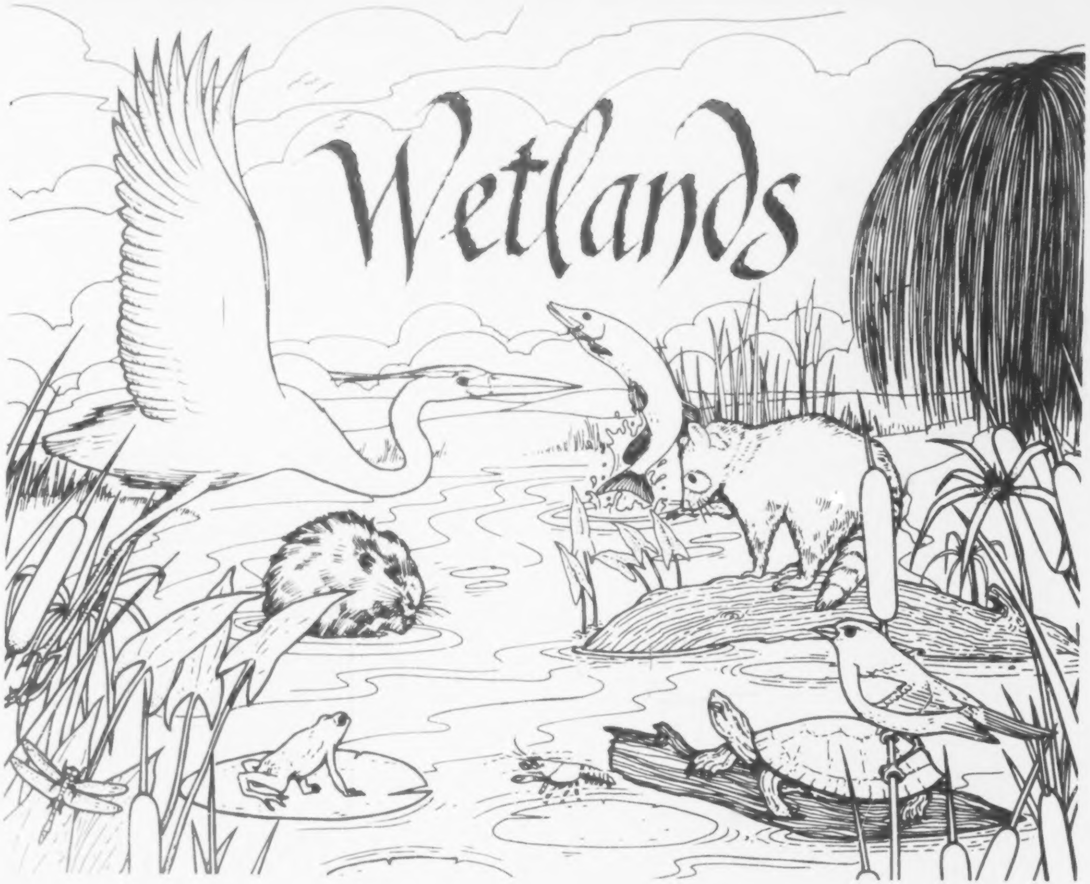
July 1988

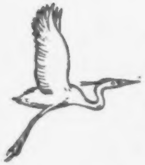
EPA
United States
Environmental Protection
Agency

Region 5
230 South Dearborn Street
Chicago, Illinois 60604

Welcome to the Wetlands

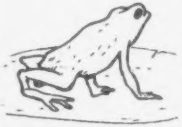

Wetlands

Freshwater Marsh



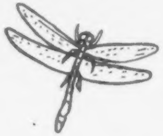
THE GREAT BLUE HERON:

Great Blue Herons are wading birds often found in wetland areas. They have long, thin necks, legs, and toes, and use their dagger-shaped beaks to catch and eat fish, amphibians, smaller birds, and even small mammals.



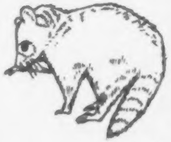
FROG:

Frogs are tailless amphibians that comprise more than 3,000 different species throughout the world. Frogs have long legs that are especially adapted for quick-getaway jumps. Because they eat so many insects, frogs save farmers millions of dollars each year.



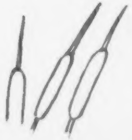
DRAGONFLY:

Dragonflies are long, needle-shaped insects with two huge eyes. Dragonflies fly very quickly along the shores of lakes and streams, and can often be found in wetlands. Most dragonflies hunt for insects only in bright sunlight.



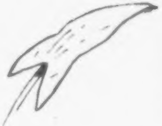
RACCOON:

Raccoons are grayish mammals with bushy tails, flat feet, and broad faces that make them look like they're wearing masks. Raccoons like to live in wetland areas, where they often build dens in hollow trees. Raccoons eat fruits, nuts, frogs, reptiles, and small mammals.



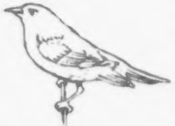
CATTAIL:

Cattails comprise 15 different species of strong reeds that grow in wetland areas. Typically, cattails are 8-foot tall and are topped by hundreds of tiny, velvety brown flowers that are as soft and furry as the tail of a kitten.



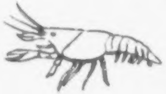
ARROWHEAD:

"Arrowhead" is a common name given to a group of plants that have arrow-shaped leaves. The most common arrowhead found in the United States is called a Duck Potato because it is such a good source of food for wetland fowl.



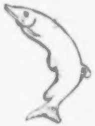
RED-WINGED BLACKBIRD:

Red-winged blackbirds are found through out the northern United States and Canada. They fly south in the winter, but spend most of the year in northern swamps and marshes, where they build nests out of rough grass and reeds. Red-winged blackbirds are noted for their loud, piercing calls.



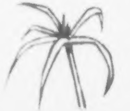
CRAYFISH:

Crayfish are crustaceans who live in fresh water. Most crayfish live in lakes, ponds, and streams, but some live in wetlands in burrows they make out of mud. Crayfish usually come out at night, when they look for vegetation to eat.



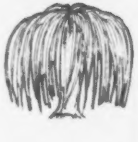
NORTHERN PIKE:

Northern Pike are fish that live in cool water and are usually green with white spots along their sides. Northern Pike can weigh more than 20 pounds and have been said to live up to 75 years. Because they fight so well, fishermen like the sport of catching them.



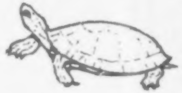
SEDGES:

Sedges are herbs that look like grass and grow [illegible] etlands in clu[illegible] along the banks of streams and ponds. Some of the more than 700 species of sedges have sharp edges and also can be found in the arctic or on mountains.



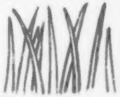
WILLOW TREE:

Willow trees grow in wetlands near the banks of streams, where their twigs root in the mud. Fossils show us that willow trees have existed for a long, long time. More than 100 species of willow trees can be found in North America.



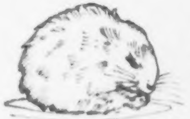
TURTLE:

Turtles are reptiles that have shells on their backs, webbed claws, and long necks that allow them to move their heads in and out of their shells. Turtles have quick, tight jaws which they use to catch and eat fish, frogs, insects, and just about anything else that comes near them. In wetlands, turtles like to live in the mud.



HARD STEM REED:

Hard stem reeds are coarse grasses that grow to 12-foot tall and have long, broad roots. In wetlands, they thrive along river banks and help thicken the soil.



MUSKRAT:

Muskrats are water rodents and are, in fact, members of the rat family. They have flat tails to help them swim. Muskrats live along small streams in wetlands and like to make complicated burrows with underwater entrances. Muskrats eat wetland vegetation.

WATER LILY:

Water lilies boast more than 2,000 species. They grow in moist areas and grow to 4-foot tall. They can bloom over and over again. Water lilies are very pretty.

THERE IS A LOT GOING ON IN *Wetlands*

You'll see birds, ducks, turtles, fish, muskrats, beavers, and a whole host of other animals here. Many of these species you won't find anywhere else because their homes need to be wet. And wetlands provide the water. Wetlands also provide free benefits, such as flood control, to many people. With so much going on in wetlands, it's no wonder they're so important to us.

What is a Wetland?

As you might guess, wetlands are natural areas that hold water. Generally found in low-lying areas, wetlands can be as small as a wading pool or as large as a lake. Despite a wetland's size, the water is usually shallow.

Water is a necessary ingredient for wetlands but it isn't always there. Some wetlands stay wet all year, while others dry out for months at a time. Wetlands on the coasts fill up and drain twice a day because of the tides from the ocean.

There are many different kinds of wetlands throughout North America. Marshes, swamps, bogs, and mangroves are some of the wetlands you can find. Each wetland type provides food, shelter, and water for plants and animals that need a watery home. You can learn more about wetlands on the next page.

HOW WETLANDS HELP US

Wetlands do more than provide homes to many plants and animals. They also help people by providing free services you may not be aware of. In fact, the benefits wetlands give us are worth billions of dollars every year!

FISHERIES. Most of the fish and shellfish we eat live in wetlands when they are young. Young fish find a vast supply of food and protection from predators in these watery habitats. Wetlands along the Atlantic and Gulf coasts are especially rich in fish we eat. All told, wetlands support a multi-billion dollar per year commercial and recreational fishing industry.

FLOOD CONTROL. When rivers overflow, wetlands can help control flood waters that damage property. They are able to hold excess water and slow water traveling through them. As a result, fewer homes and businesses are damaged in areas where wetlands are left intact than in neighborhoods where they have been drained and filled.

CLEAN WATER. Wetlands can be a great help in dealing with polluted water. Because water moves slowly in wetlands, silt and sediments are able to settle out. Also, wetland plants absorb certain nutrients and chemicals that can pollute rivers, ponds, and lakes downstream. Dirty water gets a good cleaning when it flows through wetlands.

RECREATION. Wetlands provide a great opportunity for fishing, canoeing, hiking, birdwatching, or just plain splashing around.

PROVIDING HOMES FOR WILDLIFE

Wetlands are probably too soggy for you to live in, but they're just right for many animals that wouldn't live anywhere else. In fact, you can find more animals and plants per acre in a wetland than in any other kind of habitat. Wetlands also provide homes for many endangered species. Endangered species are types of animals, birds, and fish that are almost all dead.

A FLOCK OF BIRDS. When there's water in a wetland, you can be sure birds will be there too. Wading birds, such as herons and egrets, stand very still in the shallow water, looking for fish and frogs to grab with their long, slender bills. Hawks, osprey, and kingfishers take a more active approach, swooping from the air to catch their fish. Other birds, such as ducks and geese, float on the water while feeding on marsh plants and insects.

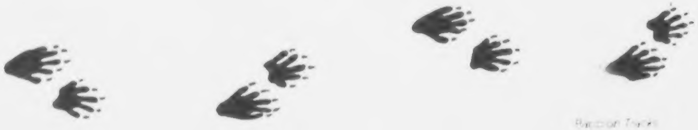
Many of these water birds flock in great numbers to fly south for the winter and then back north in spring. This is called migrating. They use wetlands all along their migration routes for feeding and much-needed rests.

MANY MAMMALS. Wetlands attract mammals of all sizes, from the tiny mouse to the powerful moose. Some species, like the muskrat and the beaver, spend more time in the water than they do on dry ground. Rather slow and awkward on land, these watery rodents are quick and easy swimmers that feed on rich wetland vegetation. Perhaps the most graceful and playful mammal in the water is the river otter. Its cousin the mink is also a wetland dweller that feeds on mice, frogs, fish, muskrats, and marsh-dwelling birds.

Some of the larger wetland visitors are rather shy, so you may not often see them. They do leave tracks, though, so you can tell where they've been. Black bears love the berries they find in swamps during the spring. White-tail deer eat plants and twigs along the edge of wetlands, while moose often wade out in the water to get a meal of aquatic plants.

AND A WHOLE HOST OF OTHERS. Wetlands provide the perfect environment for a whole host of reptiles, amphibians and insects. There are turtles galore, from painted ones to snapping ones, frogs on lily pads, and salamanders near the shore. You'll find tadpoles and toads, snails and snakes, butterflies and dragonflies, and different types of fish. In some southern wetlands, you can even see alligators.

ENDANGERED SPECIES. Whooping cranes, bald eagles, wood storks, peregrine falcons, and Smith's blue butterflies all have one thing in common. They are endangered species that live in wetlands. And they aren't the only ones. About 35 percent of all plants and animals listed as threatened or endangered in the United States either live in wetlands or rely on them in some way. These species will not survive if their wetlands are destroyed.



Raccoon Tracks

Threats to Wetlands

People have a history of destroying wetlands. Until recently, wetlands were drained at every opportunity because it was believed that swamps and marshes were useless and undesirable. No one understood how important wetland really were. As a result, over half of our nation's wetlands have been lost. And when wetlands disappear, the wildlife and plants that live in them disappear as well.

Today wetlands receive some protection because it has been recognized that they provide many benefits. But there is a long way to go before wetlands receive enough protection. Each year in North America over 700,000 acres of wetlands are lost. Wetlands are being destroyed by:

AGRICULTURE —Many farmers drain wetlands and then plant crops on the land, even though plants tend not to grow as well as on surrounding farm land. Agriculture is responsible for approximately 80 percent of all wetland losses.

DEVELOPMENT —Some people drain and fill in wetlands so they can build on the land. As cities and towns are expanded and more industries are constructed, the pressure to drain wetlands will increase.

POLLUTION —Wetlands can clean up water by filtering out some kinds of pollutants found in the water. However, too much pollution from industry, agriculture, or urban areas can kill plants and animals living in wetlands.

A Variety of Wetlands

You can find a variety of wetlands in North America. With all the different names—swamp, bog, marsh—you can easily get confused. So, how do you tell them apart? This simple guide should help.

First of all, wetlands are divided up by the kind of water they contain. Most of them are filled with fresh water from streams, lakes, snowmelt and rainfall. Wetlands along the coast are filled with salt water because they get most of their water from the ocean.

Secondly, you can tell wetland groups apart by the types of plants that grow in them and by the animals that live there.

Freshwater Wetlands

FRESHWATER MARSH: Freshwater marshes are the most common type of wetland. They are full of soft-stemmed plants such as grasses, cattails, and water lilies. You can find ducks, geese, raccoons, minks, muskrats, beavers, great blue herons, snowy egrets, bald eagles, and hawks in freshwater marshes.

SWAMP: This wetland type is dominated by hard-stemmed plants such as trees and shrubs. The water may be one-foot deep. Swamps are often found near rivers. You can find wild turkeys, hawks, ducks, geese, moose, black bears, white-tailed deer, owls, and bobcats in swamps.

BOG: This kind of wetland usually has an open area containing many soft-stemmed plants. Bogs are often hidden by trees and bushes. Bogs are usually located in northern areas once covered by glaciers. Peat deposits that are bouncey to walk on have developed at the bottom of these wetlands.

Peat consists mostly of decayed plant material. In some bogs, the peat can be over 40 feet thick. You can find frogs, butterflies, warblers, sparrows, and black bears in bogs.

Saltwater Wetlands

SALTWATER MARSH: Saltwater marshes are found on coastlines, tucked in the inner reaches of coves and bays where they are protected from the full force of the surf. Grasses adapted to salt water grow in these marshes. You can find blue crabs, fiddler crabs, clapper rails, great blue herons, raccoon, snails, and ducks in saltwater marshes.

MANGROVE SWAMP: This saltwater swamp is similar to freshwater swamps containing woody plants. Saltwater swamps are usually dominated by a tropical tree called the mangrove. Because mangroves cannot live in the cold, you can only see these swamps along the coasts of southern Florida and at a few places on the Louisiana and Texas coasts. You can find brown pelicans, blue crabs, American crocodiles, sea horses, and salt marsh snails in mangrove swamps.

United States
Environmental Protection
Agency

Office of Wetlands Protection
Office of Water
Washington DC 20460

February, 1988
OPA-87-016

AMERICA'S WETLANDS

"Wetlands" is the collective term for marshes, swamps, bogs, and similar areas that often develop between open water and dry land. These wet areas can be found in every county of every state in the United States. If there's not a wetland in your neighborhood, there's probably one nearby.

In the past, wetlands were often regarded as wastelands—sources of mosquitoes, flies, and unpleasant odors. Most people felt that wetlands were places to be avoided, or better yet, eliminated. Largely because of this negative view, more than half of America's original wetlands have been destroyed. They have been drained and converted to farmland, filled for housing developments and industrial facilities, or simply used as receptacles for both household and hazardous waste.

More recently, with our increased understanding of ecological processes, attitudes towards wetlands have changed. Scientists have discovered that wetlands are, in fact, valuable natural resources that provide many important benefits to people and their environment. Among other things, wetlands help improve water quality, reduce flood and storm damages, provide important fish and wildlife habitat, and support hunting and fishing activities. **Wetlands are not wastelands at all; they are natural wonderlands.**

Reading this booklet will give you a better understanding of the importance of wetlands, how they are threatened, and what can be done to conserve them for future generations.

EPA Involvement

The Environmental Protection Agency (EPA), in partnership with state and local governments, is responsible for restoring and maintaining the chemical, physical, and biological integrity of the nation's waters. Because of the value of wetlands as an integral part of those waters, EPA is also charged with protecting wetland resources. The major federal regulatory tool for this is Section 404 of the Clean Water Act, which is jointly administered by the U.S. Army Corps of Engineers and EPA. Section 404 establishes a permit program to regulate the discharge of dredged or fill material into waters of the United States, including most wetlands. The U.S. Fish and Wildlife Service and the National Marine Fisheries Service have important advisory roles in the permit review process.

EPA recognizes that a truly effective program to protect our nation's wetlands must be supplemented by approaches other than Section 404 and requires the cooperation of federal, state, and local agencies; developers; environmental groups; the scientific community; and others. Active citizen support and participation is an essential ingredient of such a program (see page 8). To provide leadership in building such a broad-based national effort, EPA established an Office of Wetlands Protection in 1986.

U.S. FWS

TYPES OF WETLANDS

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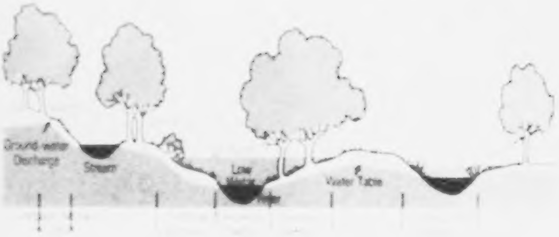

Ground-water Discharge
Stream
Low
Water Table

WETLAND VALUES

In their natural condition, wetlands provide many benefits including: food and habitat for fish and wildlife; water quality improvement; flood protection; shoreline erosion control; natural products for human use; and opportunities for recreation and aesthetic appreciation. Each wetland works in combination with other wetlands as part of a complex, integrated system that delivers these benefits and others to society. An assessment of the value of any specific wetland must take this critical interrelationship into account.

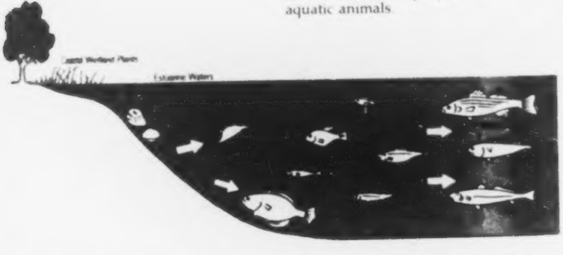
Fish and Wildlife Habitat

Wetlands are critical to the survival of a wide variety of animals and plants. For many, like the wood duck, the muskrat, the cattail, and the swamp rose, wetlands are primary habitats—the only places they can live. For others, such as striped bass, peregrine falcon, and deer, wetlands are not primary residences but do provide important food, water, or cover. Moreover, a number of rare and endangered species depend on wetlands for survival.

Coastal wetlands are especially important habitats for estuarine and marine fish and shellfish, various waterfowl, shorebirds and wading birds, and several mammals. Most commercial and game fish use coastal marshes and estuaries as nursery and/or spawning grounds. Menhaden, bluefish, flounder, sea trout, spot, salmon, croaker, and striped bass are among the more familiar fish that depend on coastal wetlands. Shrimp, oysters, clams, and blue and Dungeness crabs likewise rely on these wetlands.

Inland wetlands are also valuable fish and wildlife habitats. Most freshwater fish feed upon wetland-produced food and use wetlands as nursery grounds. Most of the important recreational fish spawn in wetlands. A variety of bird-life—ducks, geese, redwinged blackbirds, and a large number of other songbirds—feed, nest, and raise their young in inland wetlands. Muskrat, otter, and beaver are some of the more familiar wetland mammals, but others, like deer, use wetlands for food and shelter. Black bear find refuge and food in forested and shrub swamps in many areas.

Altogether, wetlands are among the most productive natural ecosystems in the world. They can be thought of as the "farmlands of the aquatic environment" since they produce great volumes of food (plant material). The major food value of wetland plants comes when the plants' dead leaves and stems break down in the water to form small particles of organic material called "detritus." This enriched material is the principal food for many small aquatic invertebrates, various shellfish, and forage fish that are food for larger predatory fish, such as bluefish and striped bass. These larger fish are, in turn, consumed by people. Thus, wetlands provide an important source of food for people as well as for aquatic animals.



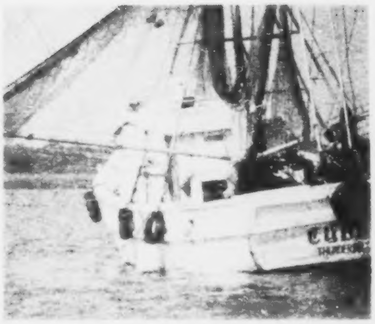
Coastal wetlands annually produce millions of tons of detritus that support important fish and shellfish.

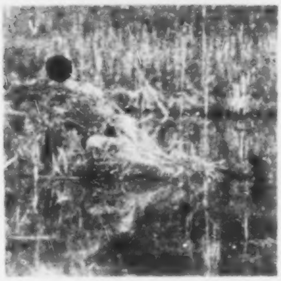
Water Quality Improvement

One of the most important values of wetlands is their ability to help maintain and improve the water quality of our nation's rivers and other water bodies. Wetlands do this by removing and retaining nutrients; processing chemical and organic wastes; and reducing sediment loads to receiving waters. Wetlands are particularly good water filters. Due to their position between upland and deep water, wetlands can intercept surface-water runoff from land before it reaches open water. They also can help filter nutrients, waste, and sediment from flood waters. America's future depends in large part on our water resources, and protecting wetlands is vital to restoring and maintaining good water quality.

Flood Protection

Wetlands have often been referred to as natural sponges that absorb flooding waters. They actually function more like natural tubs, storing either flood waters that overflow riverbanks or surface water that collects in isolated depressions. By doing so, wetlands help protect adjacent and downstream property from flood damage. Trees and other wetland vegetation help slow the speed of flood waters. This action, combined with water storage, can lower flood heights and reduce the water's erosive potential. In agricultural areas, wetlands can help to reduce the likelihood of flood damage to crops. Wetlands within and upstream of urban areas are especially valuable for flood protection, since urban development increases the rate and volume of surface-water runoff, thereby increasing the risk of flood damage.





Shoreline Erosion Control

[illegible]

Natural Products

[illegible]

depend on the estuary coastal wetland system. Each year, the U.S. commercial fisheries harvest is valued at more than $10 billion. Wetlands also produce furbearers like muskrat, beaver and mink. The nation's harvest of muskrat pelts alone is worth over [illegible] million annually. Waterfowl hunters spend over [illegible] annually to harvest wetland-dependent birds.

Recreation and Aesthetics

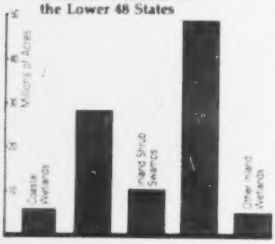
[illegible]

STATUS AND TRENDS

Current Situation

According to recent estimates, the lower 48 states had 99 million acres of wetlands in the mid-1970s. This amounts to an area equal to the size of California. An additional 200 million acres of wetlands are estimated to exist in Alaska—covering slightly more than half of the state—while Hawaii has less than 100,000 acres. Next to Alaska Louisiana and Florida have the largest wetland acreage.

Extent of Wetlands in the Lower 48 States



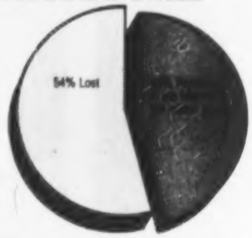
Trends

It is estimated that, in the 1600s, over 200 million acres of wetlands existed in the lower 48 states. Since then, extensive losses have taken place, with many of the original wetlands drained and converted to farmland. Today, less than half of our original wetlands remain.

Recent trend estimates show that wetlands are being lost at an alarming rate. Between the mid-1950s and mid-1970s, about 11 million acres of marshes and swamps were destroyed. This amounts to an area three times the size of New Jersey. The average annual loss was 458,000 acres (440,000 acres of inland wetlands and 18,000 acres of coastal wetlands).

Agricultural drainage of wetlands was responsible for 87 percent of the losses between the mid-50s and mid-70s. Agricultural activities had the greatest impact on forested wetlands, inland marshes, and wet meadows. Urban development and other development were responsible for 8 percent and 5 percent of the losses, respectively. Urban development was the major cause of coastal wetland losses outside of Louisiana, while submergence of Louisiana's coastal marshes by rising Gulf waters was the leading factor in that state. In addition to the direct physical destruction of wetlands, these habitats are threatened indirectly by chemical contamination and other pollution.

Original and Remaining Acreages of Wetlands in the Lower 48 States



In recent times, the most extensive losses of wetlands took place in Louisiana, Mississippi, Arkansas, North Dakota, South Dakota, Nebraska, Florida, and Texas. These and losses in other states have greatly diminished our nation's wetland resources, which means we no longer have the benefits they once provided. For example, we have recently witnessed increased flood damages and declining waterfowl populations which are, in part, the result of wetland destruction.

Major Causes of Wetland Loss and Degradation

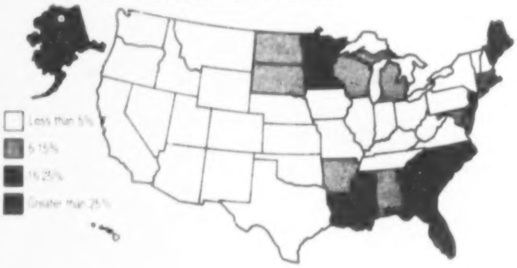
Human Impacts

- Drainage
- Dredging and stream channelization
- Deposition of fill material
- Diking and damming
- Tilling for crop production
- Grazing by domesticated animals
- Discharge of pollutants
- Mining
- Alteration of hydrology

Natural Threats

- Erosion
- Subsidence
- Sea level rise
- Droughts
- Hurricanes and other storms
- Overgrazing by wildlife

Relative Abundance of Wetlands in the U.S.



Data presented in these charts were taken from *Wetlands of the United States: Current Status and Recent Trends*, published by U.S. FWS, Dept. of the Interior

MARSH and
WATERFRONT LOTS
FOR SALE

WETLANDS PROTECTION

Government Protection Mechanisms

There are various approaches to wetlands protection by governments, including acquisition, economic incentives, and regulation.

Acquisition involves purchasing wetlands or easements on wetlands and establishing wildlife refuges, sanctuaries, or conservation areas. This approach is also used by private conservation organizations.

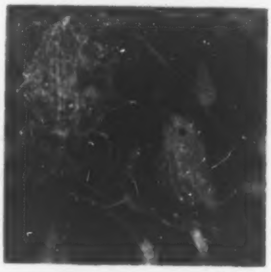
Governments can also provide **economic incentives** to private landowners and industry to promote wetland preservation. For example, under the federal tax code, landowners who sell or donate wetlands to a government agency or a qualified conservation organization can claim the value as a charitable deduction.

In contrast, some government programs have actually encouraged wetland destruction by reducing the costs of conversion to other uses. In recent years, Congress has passed a few laws that create **economic disincentives** to wetland destruction. One example is the "Swampbuster" provision of the Food Security Act of 1985. It seeks to discourage the further conversion of wetlands to farmland by eliminating most farm program benefits for anyone who produces crops on wetlands converted after December 23, 1985 (the date of the law's enactment).

While acquisition and economic incentive/disincentive programs are important, they alone cannot protect the majority of our remaining wetlands and the public values wetlands provide. Therefore, government programs to **regulate** activities in wetlands are also needed.

Section 404 of the Clean Water Act establishes the major federal program that regulates activities in wetlands. Under this law, the discharge of dredged or fill material into waters of the United States—including most wetlands—requires a permit from the Army Corps of Engineers. Failure to obtain a permit or to comply with the terms of a permit can result in civil and/or criminal penalties. The Corps issues a public notice of a permit application to inform citizens and government agencies, including EPA, of the proposed project and to solicit public comment. The Corps evaluates permit applications based upon two standards: regulations developed by EPA in conjunction with the Corps (known as the Section 404(b)(1) guidelines) which set the environmental criteria for permitting projects in wetlands; and factors to determine if the project is in the public interest.

It is important to recognize that the Section 404 program is not a comprehensive mechanism for wetlands protection. For example, some activities that can damage and even destroy wetlands, such as drainage and ground-water pumping, are often conducted without discharging dredged or fill material into waters of the United States, and thus are not regulated under Section 404.



Fred Knapp

Regulation of wetlands is certainly not limited to the federal level. Over the past three decades, numerous states have enacted laws to regulate activities in wetlands, and some towns have adopted local wetlands protection ordinances. Most coastal states now have laws to protect **coastal** wetlands which have significantly reduced losses of these wetland types. However, fewer than 20 states have laws specifically regulating activities in **inland** wetlands. Where they exist, such laws often regulate only specific activities or apply only to certain wetland types or to wetlands above a given size.

Private Protection Options

Despite the efforts of governments and private conservation organizations, pressures to degrade and destroy wetlands will continue as demand for land for development increases. Even if losses were controlled, the insidious problem of degradation of wetlands from pollution, urban encroachment, ground-water withdrawals, partial drainage, and other actions still requires attention.

Many opportunities exist for private citizens, corporations, government agencies, and others to work together to slow the rate of wetland loss and, where necessary, to improve the quality of our remaining wetland. First, states and local governments need to establish programs to effectively protect wetlands—especially inland wetlands—within their borders. Second, because individual landowners and corporations own many of the nation's wetlands, they are in a key position to determine the fate of wetlands on their properties. Finally, every citizen, whether or not they own wetlands, can help protect wetlands by supporting any number of wetland conservation initiatives.

Citizen participation in wetlands protection is essential to success. Some options for private citizens to improve the status of wetlands are:

- Rather than drain or fill wetlands, seek compatible uses involving minimal wetland alteration, such as waterfowl production, fur harvest, hay and forage, wild rice production, hunting and trapping leases, and selective timber harvest.
- Select upland sites for development projects rather than wetlands, and avoid wetland alteration or degradation during project construction.
- Donate wetlands, or funds for purchasing wetlands, to private or

public consérvation agencies.

- Maintain wetlands and adjacent buffer strips as open space.
- Construct ponds in uplands and manage for wetland and aquatic species.
- Support various wetland conservation initiatives by public agencies and private organizations.
- Purchase federal duck stamps from your local post office to support wetland acquisition.
- Participate in the Clean Water Act Section 404 program by reviewing public notices and, in appropriate cases, commenting on permit applications.

Additional information concerning wetlands protection can be obtained from the EPA regional offices listed on the back of this booklet.

Wetlands are an important part of our national heritage. Our economic well-being and our quality of life are closely dependent on our nation's wealth of natural resources, and wetlands are the interface between our land and water resources. As wetlands are lost, the remaining wetlands become even more valuable. We have already lost half of our nation's original wetlands (since Europeans first settled). We must now take positive steps on many fronts to ensure that the remaining wetlands will be protected for future generations.

For additional copies of this booklet contact:
Public Information Center (PM-211B)
U.S. EPA
401 M Street SW
Washington, DC 20460

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p. 102 ⑧

STATEMENT OF MR. ROBERT WELFORD, FIELD SUPERVISOR, ST. PAUL FIELD OFFICE, U.S. FISH AND WILDLIFE SERVICE, DEPARTMENT OF THE INTERIOR, BEFORE THE SUBCOMMITTEE ON WATER RESOURCES, COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION, REGARDING WETLANDS ACTIVITIES IN THE NORTHERN PLAINS AND THE SECTION 404 REGULATORY PROGRAM

April 14, 1989

Mr. Chairman, my name is Robert Welford. I am the supervisor of the St. Paul Field Office of the U.S. Fish and Wildlife Service (Service). My office is responsible for many wetland-related activities, and I appreciate the opportunity to appear before the Subcommittee to discuss those activities with respect to the prairie region of Minnesota.

I would like to address three main points in my formal testimony. First, I want to emphasize the importance of wetlands as a natural resource, and our concern with their continued decline. Second, I will describe the Service's biological expertise on fish and wildlife matters and how we share that expertise as consultants with other agencies. Lastly, I would like to relate some achievements in wetland protection and enhancement in which the Service has cooperated as partners with Federal and State agencies and, most importantly, landowners.

Wetlands Loss

Over 50 percent of our Nation's wetlands have been lost. President Bush, in recognizing the severity of this problem, has called for "no net loss of wetlands" on a national basis. Based on its concern for wetlands loss, the Congress has passed a number of wetland protection measures over the past few years. Examples include the Swampbuster provision of the 1985 Food Security Act, commonly known as the Farm Bill, and the 1986 Emergency Wetlands Resources Act.

For many years, the Service has worked to ensure protection of the wetland resource base in Minnesota, particularly those wetlands which provide habitat for migratory waterfowl. Approximately two-thirds of the breeding ducks in Minnesota are found in the western half of the state commonly referred to as the Prairie Pothole Region. Fifteen species of ducks breed in this area, making it some of the most productive waterfowl habitat on the North American continent. These marshes and potholes also provide essential nesting, wintering, and breeding habitat for many other species of migratory birds and resident wildlife.

In addition to their importance as fish and wildlife habitat, wetlands are important in maintaining groundwater supplies, improving water quality, and providing floodwater storage. Over 50 percent of Minnesota's wetland habitat has been lost.

In recognition of the public benefits of wetlands, Congress supported Federal involvement in wetland preservation in 1934 when it passed the Migratory Bird Hunting and Conservation Stamp Act, popularly known as the Duck Stamp Act. This Act established the Migratory Bird Conservation Fund to finance the Federal acquisition of waterfowl habitat. Although this was an important step in protecting wetlands, continued loss of the wetland resource base resulted in additional efforts to conserve wetlands.

and the 1986 Emergency Wetlands Resources Act authorized additional methods to finance wetlands acquisition.

To develop an ecologically sound wetland data base to guide decisions regarding policy, planning, and management of the country's wetland resources, the Service established the National Wetlands Inventory Project. Among the products of this latest inventory are detailed wetland maps used by local, State, and Federal agencies as well as private industry and organizations.

Consultation

It is our role to consult with other Federal agencies regarding the biological effects of their activities on wetlands, and I would like to emphasize that the Service acts as a scientific advisor to other agencies and bases its recommendations on sound biological judgments.

Pursuant to the Fish and Wildlife Coordination Act and the Clean Water Act, the Service is responsible for reviewing Federally permitted or licensed actions which could affect wetlands. These Acts require Federal regulatory agencies, such as the Corps of Engineers (Corps), to consult with the Service and the appropriate State wildlife agency whenever anyone proposes to modify wetlands or other bodies of water through permits, such as those required by section 404 of the Clean Water Act. The Service provides recommendations to the Corps that would prevent or reduce loss of or damage to wildlife resources from the proposed action.

As part of the Section 404 regulatory program, the Corps also administers a general permit program. General permits may be either nationwide or regional in geographic scope. The Service reviews pre-discharge notifications for general permits, including nationwide permit 26. The pre-discharge notifications are issued for proposed actions that will affect from one to ten acres of isolated wetlands or wetlands found at the headwaters of streams. These two types of wetlands are the ones most susceptible to drainage. If the Service concludes that the proposed action will substantially affect migratory waterfowl habitat adversely, we request that the action be subject to an individual Section 404 permit review process, rather than being approved through the nationwide permit system.

Under procedures established for this nationwide permit, any fill activity affecting less than one acre of wetland is not subject to regulation. The ensuing loss of small, yet important, prairie wetland basins has, in our opinion, passed the point where such activities can be considered cumulatively insignificant.

With respect to maintenance of drainage ditches, the Service does not usually become involved in applications for agricultural drainage ditch exemptions in Minnesota since such determinations are made by the Corps of Engineers. If a proposed activity is deemed ditch maintenance, and therefore exempt, no further review occurs. We do review drainage ditch proposals that do not meet the Clean Water Act's Section 404(F)(1)(c) exemption criteria, however, and provide comments and recommendations to the Corps to minimize and avoid impacts to fish and wildlife resources.

The Service works extensively with the Minnesota Department of Natural Resources, the U.S. Department of Agriculture, and the Corps of Engineers on wetlands issues. We, along with the Minnesota Department of Natural Resources, assist the Soil Conservation Service in developing plans for vegetation that will provide wildlife food and cover on conservation reserve tracts. We also cooperate with the Soil Conservation Service in making wetland determinations, and we assist the Farmers Home Administration in identifying existing or restorable wetland basins. The Service also coordinates with the Minnesota Department of Natural Resources and the U.S. Environmental Protection Agency on individual permit reviews.

Wetlands Restoration

Finally, I would like to share with you how we have cooperated with Federal and State agencies and farmers in restoring drained wetland basins in Minnesota, as well as how we are participating in implementing the North American Waterfowl Management Plan.

Approximately 75 percent of the remaining wetlands in the United States are privately owned; therefore, wetland conservation efforts must rely on joint public/private cooperative efforts. In recognizing the essential role of landowners in accomplishing wetland protection, the Service has established a program to restore drained wetlands on or adjacent to conservation reserve tracts. Under this program, in cooperation with the Department of Agriculture, the Minnesota Department of Natural Resources, and the landowner, the Service delineates drained basins, performs the necessary engineering surveys, and completes the restoration measures, all at no cost to the landowner. This program has received considerable support from landowners in Minnesota. In 1988 alone, 1,100 drained basins, totalling more than 2,000 acres, were restored in the state.

Implementation activities under the North American Waterfowl Management Plan represent another example of public/private cooperation in restoring wetlands. The Plan presents an international strategy for conservation and management of waterfowl through cooperative planning and coordinated management. It also provides a framework for the participation of various private organizations and the public in the conservation and management of waterfowl. One of the goals is to protect and improve prairie wetlands for duck production by ensuring that wetland basins are conserved, along with an adequate amount of upland nesting cover. A major component of the program will be achieved through agreements with landowners to manage their wetlands and other marginal agricultural lands for waterfowl.

Mr. Chairman, the Service is very concerned about the continued loss of wetlands. As the biological arm of the Federal government in fish and wildlife matters, we carry out our role as advisor by providing our best biological judgment on how proposed activities in wetlands will affect fish and wildlife resources, and how those effects can be avoided, minimized, or mitigated.

Finally, only through cooperation among Federal, State, and local governments and the ultimate stewards of the nation's resources, the landowners, can we halt and actually reverse the loss of our wetland resources. We believe we have made a coordinated, cooperative beginning in wetland restoration under the Farm bill, and we stand ready to continue and expand those efforts.

Thank you, Mr. Chairman, for the opportunity to address the Subcommittee. I will be happy to respond to any questions.

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Statement of Gary R. Nordstrom, State Conservationist, Soil Conservation Service (SCS), United States Department of Agriculture (USDA)

USDA Testimony before the Subcommittee on Water Resources of the Committee on Public Works and Transportation

St. Cloud, Minnesota
April 14, 1989

Mr. Chairman and members of the committee, I am Gary Nordstrom, State Conservationist for SCS in Minnesota. I am pleased to have this opportunity to review SCS activities relative to wetlands and agricultural drainage. First, I would like to summarize these activities, then my staff and I would be glad to answer any questions. My summary covers our wetland activities prior to passage of the Food Security Act (FSA) of 1985, those after the Act, and SCS assistance in wetland activities of other agencies.

Wetland Activities Prior to FSA

SCS, under it's Public Law 74-46 authorities, has had a long history of providing conservation technical assistance through local conservation districts to farmers, ranchers, and other land users. Part of this technical assistance included drainage and improvement of drainage on existing farm lands.

Since the late 1970's, our technical assistance has been largely restricted to individuals who wish to improve crop productivity on existing farmed wetlands.

We also work closely with the U. S. Army Corps of Engineers (CORPS) to ensure that recipients of SCS technical assistance comply with Section 404 permit requirements. In this regard, individual cooperators are informed of their responsibilities in complying with Section 404 permitting as part of our technical assistance.

Under SCS project type activities such as those carried out under the Public Law 566 Small Watershed and Flood Protection Act, our policy recognizes the need for project sponsors to mitigate where wetlands would be altered or destroyed by installing planned works of improvement. The Act dates back to 1954 and authorized the USDA to assist local units of government in planning and implementing water resource projects for purposes including flood prevention, erosion control, irrigation, drainage, water based recreation development, agricultural pollution control, municipal and industrial water supply, and rural water supply. To date, 19 projects have been planned and authorized for installation in Minnesota and about 51 structures, and 1 million acres of conservation treatment have been installed. Work is currently underway on 4 projects with 2 additional projects in the planning phase.

Each Public Law 83-566 project undergoes an extensive environmental analysis during the planning process. The National Environmental Policy Act (NEPA) procedures are used to document environmental impacts. Wetland issues are a factor in the project formulation because structural measures to control flooding are, by necessity, often located in wet areas. Wetland mitigation or wetland replacement plans are included as part of a project when structural measures adversely impact valuable wetlands.

Prior to installation of any structural measure, an assessment is made on the need for a 404 permit by the CORPS. Most structures require a permit. The project sponsor is charged with obtaining the permit. Project sponsors are often frustrated when applying for 404 permits because they find that the proposed project and its environmental impacts are reopened to scrutiny. Often this requires additional study concerning wetland impacts, suggestions of complete project reformulation, and renegotiating mitigation plans. This is particularly true when a long time has elapsed between planning and the proposed construction start.

It would be very helpful to small watershed project sponsors to have a 404 permit commitment at the time of original planning. This would avoid many problems now experienced by project sponsors.

Wetland Activities After FSA

The FSA included significant provisions relative to wetland conservation. One is commonly knows as the "swampbuster provision. Under this provision, producers who convert wetlands for the purpose of producing an agricultural commodity after December 23, 1985, lose their eligibility for certain USDA program benefits. Among others, these benefits include loans, crop insurance, deficiency payments and disaster payments.

The Act defines wetland as an area that has a "predominance of hydric soils and that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances does support a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions." This definition is based on three criteria: the presence of hydric soils, the land's hydrology, and the ability of the land to support hydrophytic vegetation. SCS has decided to apply this wetland definition to all aspects of SCS technical assistance, not just to administer the wetland conservation provisions of FSA. We are, for example, in the process of revising our policies concerning technical assistance on drainage to conform with this definition. SCS hopes to publish this revised policy within the next few weeks.

USDA, published a final rule on September 27, 1987, implementing the wetland conservation provisions of the FSA. In adopting the final rule, consideration was given to over 8,000 comments received in response to the interim rule, conclusions reached as a result of an interagency pilot study conducted to determine the feasibility of applying certain wetland procedures, and information obtained by consultation with the U. S. Fish and Wildlife Service.

The final rule requires participants in USDA programs to indicate whether or not they intend to alter any wet area on their farm. Participants declare their intentions on form AD-1026. If the participant indicates an intent to alter a wet area, the form is immediately referred to SCS for a determination as to whether the wet area is a "wetland" for swampbuster purposes. SCS makes the original determination within 60 days. If the participant indicates no immediate intent to alter a wetland area, an AD-1026 form is referred to SCS for a determination of general swampbuster and sodbuster compliance when resources permit.

Wetlands converted prior to December 23, 1985 are exempted from the wetland conservation provisions except for certain areas such as potholes and seasonally flooded or ponded areas that still exhibit wetland characteristics.

Exemptions also exist for wetlands that can be farmed under natural conditions, wetlands where the conversion was commenced prior to December 23, 1985, artificially created wetlands, and converted wetlands where the conversion has minimal effect on the hydrological and biological values of the wetland. Wetlands altered previous to December 23, 1985 can be farmed to the same extent as before the Act, including the maintenance of drainage systems.

As of March 31, 1989, about 34,000 wetland determinations have been made in Minnesota and another 19,000 determinations have been made on lands that did not have wetlands.

In order to obtain more consistency and efficiency in making individual wetland determinations, SCS decided in FY 1988 to make wetland inventories for areas known to have a large number of significant wetlands. We plan to complete the wetland inventory in Minnesota for that portion of the state considered a high priority this fiscal year. Our goal is to complete remaining wetland determinations for cropland and adjacent areas by December 31, 1991.

The first wetland inventory completed by SCS was in the Red River Valley portion of North Dakota and Minnesota. The inventory has proven effective in reducing farmer concerns and those of the general public about these new requirements. It also proved an effective process to complete wetland determinations in a prompt and orderly manner.

SCS Assistance in Wetland Activities of Other Agencies

SCS provides technical services in the implementation of the Conservation Reserve Program (CRP) and the Water Bank Program (WBP) administered by the Agricultural Stabilization and Conservation Service. The CRP is intended to remove nationwide some 40-45 million acres of highly erodible cropland and other lands with farm production through the use of 10-year contracts. Currently in Minnesota, about a 1.6 million acres are enrolled in the CRP, not counting the last sign up.

Recently, CRP eligibility criteria were modified to permit certain farmed wetlands to be eligible to be placed in the program. Data from the last CRP signup is still being tabulated, but estimates indicate as many as 300,000 acres of land were bid for contract under the wetland criteria. If this acreage is accepted for the CRP, these farmed wetlands will be protected for a 10-year period.

Under the Water Bank Program, owners of land in selected areas of important migratory waterfowl nesting, breeding, or feeding areas that have eligible wetlands with a sufficient amount of adjacent land to protect the wetland and provide wildlife habitat may enter into 10-year contracts with the Commodity Credit Corporation to maintain and protect the wetland. Annual payments are made to the owner/operator. During the past 10 years in Minnesota, approximately 1100 contracts have been entered into on 55,000 acres of land. The Administration's 1990 budget proposal calls for permanent easements on water bank contracts in lieu of 10-year agreements.

SCS makes the determination of land eligibility and assists land users develop the conservation plans that are used as the basis for contracts with USDA in both these programs.

On January 10 of this year, the four major federal agencies having wetland responsibilities - SCS, U.S. Army Corps of Engineers, Environmental Protection Agency, and U.S. Fish and Wildlife Service - agreed to use the hydric soil, wetland hydrology, and hydrophytic vegetation criteria to implement their wetland responsibilities in the future. This will help improve consistency of federal operations, but will not completely eliminate all problems because of specific exclusions or exemptions provided for in various laws they administer.

The Administration is in the process of setting up a wetlands task force to address recommendations by the Conservation Foundation's National Wetlands Policy Forum and the President's initiative for no net wetland loss. SCS welcomes the opportunity to serve on the task force.

Thank you for the opportunity to be here today to discuss this important subject. Our agency looks forward to working with you toward enhancing the protection of our Nation's wetland resources. We believe the swampbuster provisions, CRP, and interagency cooperation will help to complement President Bush's goal of no net wetland loss. My staff and I would be pleased to answer any questions you may have.

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STATEMENT OF MINNESOTA'S
U.S. DEPARTMENT OF AGRICULTURE
AGRICULUTRAL STABILIZATION CONSERVATION SERVICE
ST. PAUL, MINNESOTA
BEFORE THE
SUBCOMMITTEE ON WATER RESOURCES
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION
U.S. HOUSE OF REPRESENTATIVES
APRIL 14, 1989
ST. CLOUD, MINNESOTA

Good afternoon Mr.Chairman and members of the Committee. My name is Gregory C. Anderson, Agricultural Program Specialist with the St. Paul State Agricultural Stabilization Conservation Service (hereinafter referred to as ASCS), Conservation Section. My prepared remarks will address the role of ASCS as it relates to wetlands and agricultural drainage.

The U.S. Department of Agriculture ASCS has five specific areas of involvement when dealing with wetlands and agricultural drainage. These five areas are:

1. The swampbuster provisions of the 1985 Farm Bill.
2. The commenced wetland exemption provisions as they relate to the 1985 Farm Bill.
3. Third party wetland exemption provisions as they relate to the 1985 Farm Bill.
4. The ten year Conservation Reserve Program under the 1985 Farm Bill.
5. The ten year Water Bank Program.

SWAMPBUSTER PROVISIONS: Under Swampbuster, if a person converts wetland after December 23, 1985 (date of the Farm Bill), and uses the area to plant agricultural commodities, certain USDA program benefits are not earned for the year in which such commodities are planted.

The Minnesota State ASCS Committee feels, for first time offenders, loss of USDA program benefits is too severe a penalty for planting an agricultural commodity on a converted wetland. The Committee, therefore, feels there needs to be a modification to the law regarding these penalties.

The Committee has also recommended to Washington D.C. that wetland acreages 1.0 acre, or less, and farmed wetland acreages of 10 acres, or less, be exempt and be allowed to be altered under the swampbuster provisions.

COMMENCED WETLAND EXEMPTION PROVISIONS: Under the commenced wetland provisions a person, including drainage districts, or other Government entities, who believe they started but did not complete conversion of wetlands before December 23, 1985, may be entitled to an ASCS commenced wetland exemption provided the drainage project meets the ASCS commenced wetland criteria.

In some cases the Minnesota State ASCS Committee feels mitigation of wetlands would be a very practical solution to a commenced wetland request. Current procedure, however, does not provide for this. ASCS works very closely with the Soil Conservation Service and the U.S. Fish and Wildlife Service in cases involving commenced wetland exemption requests.

THIRD PARTY WETLAND EXEMPTION PROVISIONS: Under Third Party Wetland exemption requests, an ASCS exemption applies if a person can show that the conversion was caused by a third party with whom the person was not associated through a scheme or device to circumvent the wetland conservation provisions.

ASCS works very closely with the Soil Conservation Service and the U.S. Fish and Wildlife Service in cases involving Third Party wetland exemption requests.

CONSERVATION RESERVE PROGRAM: The Conservation Reserve Program is a ten-year conservation program administrated by ASCS to retire highly erodible cropland from production for a ten-year period. Provisions, however, have recently been expanded to allow certain wetlands and cropped wetlands into the Conservation Reserve Program. Program participants receive annual rental payments each year for ten years, and up to 50 percent of the cost to establish a conservation cover on the acreage. ASCS works very closely with various local, state and federal agencies in administering the Conservation Reserve Program.

WATER BANK PROGRAM: The Water Bank Program is a federal program administered by ASCS and designed to protect certain wetlands from drainage by enrolling the wetland in a ten-year Water Bank agreement. Program participants receive annual payments for participating in the Water Bank Program for conserving and protecting wetland from drainage, filling, burning, or other land use practices which would destroy the wetland character of the area.

ASCS works very closely with the Soil Conservation Service and the U.S. Fish and Wildlife Service in administering the Federal Water Bank Program.

This concludes my formal remarks on these five areas. I will be pleased to answer any questions you may have.

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Testimony submitted to the Water Resources Subcommittee
by: Ron Nargang, Director, Division of Waters
Minnesota Department of Natural Resources
April 14, 1989, St. Cloud, Minnesota

Mr. Chairman and members of the committee, my name is Ron Nargang and I serve as the Director of the Division of Waters, Minnesota Department of Natural Resources. I appreciate the opportunity to appear before the committee.

My testimony will outline Minnesota's wetland protection program, our role in that program, its relationship to the 404 program, the current status of wetlands in Minnesota and finally our perception of the need for wetland protection.

My division is responsible for regulation of a broad range of activities including Shoreland Development, appropriation of ground or surface water, wild and scenic rivers, floodplain management and, of particular significance to this hearing, any alterations of the course or cross section or the drainage of any public water or wetland.

The scope of our regulatory authorities over public water bodies is defined by a protected waters inventory. The committee members have each received a brochure explaining the program and a copy of the Stearns County Protected Waters Inventory Map as an example of the base maps available in each county. To briefly capsulize the program it was initiated in 1976 and includes all water bodies generally recognized and managed as "lakes", natural or altered watercourses with a drainage area greater than two square miles and types 3, 4, and 5 wetlands ten acres or larger in rural areas or two and one half acres or larger in incorporated areas. The final product is a county-level map like the one before you. It provides a reference for the agency as well as the public in determining our jurisdiction in water regulation.

Generally any alterations of protected waters below their ordinary high water level require application for a permit from the Department. Exemptions are provided for by administrative rules. Affected local governments and appropriate state and federal agencies are notified of each permit so they may review and comment. The Department is required to issue, modify or deny the permit within thirty days of receiving all relevant comments and information.

An integral part of the wetland management program is the compensation provided under the State Water Bank Program. Although very similar to the Federal Water Bank Program in that it provides a method of acquiring state interest in wetlands to assure their protection from agricultural drainage, it is directly linked to the regulatory program to provide landowners with compensation. A landowner who wants to drain a protected wetland must apply for a drainage permit. With few exceptions the permit is denied and the Department is required to offer compensation under the Water Bank Program. The landowner has the choice of selling the wetland or selecting either a twenty-year easement or perpetual easement. If the Department fails to offer compensation the landowner can proceed with drainage without penalty.

Minnesota's wetland protection laws are restricted in their application to public drainage systems. Statutorial provisions in the Drainage Code (M.S. 106A) provide the legal framework for construction of new ditches and improvement or repair of existing drainage systems. The law generally allows repair of existing public drainage systems to their original construction grade and flattening of side slopes or leveling of spoil banks.

There are substantial differences between federal and state regulations. These differences are highlighted in the recently completed study on state assumption of Section 404 authorities. A copy has been provided to committee members for their review. Current 404 authorities apply to nearly three times as many surface waters as the state program. Significantly, the federal program regulates the disposal of spoil during drainage and flattening of side slopes on ditches. Neither activity is regulated under the state framework.

It should be noted that legislation is currently being debated by the Minnesota Legislature that would substantially expand wetland protection. The proposal represents a "no net loss" approach and would make state control much more compatible with the federal regulatory framework.

Inevitably the question will be raised regarding state agency concerns regarding administration of the 404 program. Our agency and the Pollution Control Agency have developed a Memorandum of Understanding to minimize confusion and conflict where state authority overlaps federal authority. The agreement generally provides that the Corps of Engineers will accept state requirements where state permits are required. Concerns about 404 administration fall into three areas: 1) permit processing time occasionally becomes excessive; 2) requirements, at times, do not appear to be applied consistently between the vast peat areas of northern Minnesota and the prairie pothole region; and 3) a policy conflict exists over the flattening of side slopes. In fairness to the Corps of Engineers, the first two concerns expressed appear to be largely the result of inadequate staffing to efficiently administer the program.

In closing it seems appropriate to emphasize the importance of effective wetland protection. Wetlands provide many other important benefits such as groundwater recharge, flood storage, nutrient and sediment entrapment, surface water reserves and an ideal environment for aquatic vegetation and animal organisms. Since the time of settlement nearly nine million acres of Minnesota wetlands have been drained. If we exclude the vast peatlands of the north, the remaining wetland base totals three and one half million acres of type 2-7 wetlands. State law protects five hundred thousand acres. We estimate that wetland losses continue at the rate of 5,000 acres per year which is 2% of the remaining wetlands. Clearly we must face the reality that we are rapidly losing the remnants of a once vast resource. The consequences of this loss are seen usually as recurrent flooding, degraded water quality, sediment choked streams and disappearing wildlife habitat.

I would leave with the committee three suggestions regarding the 404 program:

1) Provide adequate staffing to the Corps of Engineers to provide timely and equitable application of the law.

2) Take action to allow flattening of side slopes on ditches.

3) Utilize mitigation an an integral part of the 404 program.

Thank you for the opportunity to testify.

STATE OF
MINNESOTA
DEPARTMENT OF NATURAL RESOURCES

DNR INFORMATION
(612) 296-6157

500 LAFAYETTE ROAD • ST. PAUL, MINNESOTA • 55155-40

May 15, 1989

MAY 23 1989

The Honorable Arlan Stangeland
United States Congress
2245 Rayburn House Office Building
Washington, D.C. 20515

Dear Congressman Stangeland:

Thank you for the opportunity to appear before the Subcommittee hearing at St. Cloud on April 14, 1989 and to provide testimony relating to federal farm and drainage programs. I have reviewed the additional questions you posed in your letter of April 25, 1989, and would like to offer the following response:

1) If a state has weak or nonexistent wetland protection programs, assumption of Section 404 permitting may be practical. Because the federal government (via EPA) maintains oversight and intervention authority, such a state could likely implement Section 404 without compromising their established administrative, enforcement and statutory authority. However, those states with strong wetland protection programs (such as Minnesota), are not likely to subjugate their established authority to federal oversight or intervention. In our case, we have already integrated state and federal permitting programs via administrative agreements. If Minnesota were to assume Section 404 programs, we would have to replace these simple and effective administrative agreements with a complete overhaul of state water law, rules, administrative procedures, enforcement procedures, etc.

   In either cased, no state is likely to assume Section 404 permitting without substantial financial incentive from the federal government. As our study showed, even with a 50 year history of water resource protection programs, the State of Minnesota would incur heavy financial burden in adding Section 404 authority to its present programs.

2) Minnesota's Public Ditch Law (M.S. 106A) and Water Resources Law (M.S. 105) allow all legally established "public" drainage systems to be repaired/maintained to their originally constructed configuration. Where there are disputes concerning whether the "repair" is actually an "improvement", a 3-member panel is convened to evaluate the proposed repair (See M.S. 106A.70). Present laws do not impose any time limits for the performance or nonperformance of repair/maintenance work.

3) The case you refer to dealt with a private ditch constructed early in this century. I am enclosing a copy of the Minnesota Supreme Court decision for your reference.

4) Viewers base their determination of benefits on the increase in the current market value of property as a result of constructing the project, the increase in the potential for agricultural production as a result of constructing the project or the increased value of the property as a result of a potential different land use (M.S. 106A.315, subd. 5). Damages to be paid include the fair market value of the property required for the permanent grass strip or the channel of an open ditch, the diminished value of a farm due to severing a field by the ditch, loss of crop production during construction, and diminished productivity or land value from increased overflow (M.S. 106A.315, subd. 8).

   The Viewers file a report with the county auditor. The auditor then makes a property owners' report from the information of the Viewers' Report. Among the many items in the property owners' report, the auditor must include the number of acres and amount of benefits being assessed for drainage of areas that would be considered conversion of a wetland under United States Code, title 16, section 3821, if the area was placed in agricultural production (M.S. 106A.323, subd. 1(5)). Therefore, the landowners are made aware of the possible consequences of the project before it is actually constructed.

5) As I mentioned in my testimony, the DNR has Memoranda of Agreement with both the Corps of Engineers and the MPCA. A copy of the latest MPCA agreement is also enclosed for your reference. You will note that MPCA receives a checklist for each DNR permit application. This checklist identifies specific water quality issues that are subject to MPCA authority. The MPCA then contacts the applicant to require compliance with any water quality issues that are not dealt with through the standard provisions of our DNR permit.

Finally, there is an additional topic I didn't get a chance to address via my testimony. An idea that I would encourage you to explore with your colleagues in the Congress is enrolling the small wetlands areas that are subject to drainage in either CRP or the Federal Water Bank. Since the issue of compensation to landowners must be addressed it is logical to utilize an existing program. With CRP enrollments falling nationwide it might be particularly effective and timely to utilize CRP as a compensation vehicle.

The last CRP signup had provisions for the enrollment of wetlands into CRP, but the eligibility criteria specified that the areas had to be cropped in 2 of the crop years 1981 through 1985 and the wetlands have to be mapped by the SCS as either Wetlands or Farmed Wetlands. This crop history requirement precludes areas that are dropped from the Federal Water Bank Program from being considered for CRP. I would urge you to consider sponsoring language for the next signup period providing for enrollment of wetlands in CRP irrespective of the cropping history.

The second part of this suggestion is to urge your support for increased funding of the Federal Water Bank program. This program has a long history of protecting wetlands on a voluntary basis. Historically, there has always been more demand for these funds than funds available. Full funding of this program would enable landowners to enroll those areas that do not have the 2 years out of 1981-1985 crop history required by CRP and would reduce the pressure to drain these areas through public or private drainage facilities.

Please feel free to contact me at (612) 296-4810 if you have any questions on these proposed changes.

Sincerely,

DIVISION OF WATERS

Ron Nargang

Ron Nargang
Director

RN/DBM:tjb

Steve Thorne
Larry Shannon
Roger Holmes
Ron Harnack

NOTICE: MEDIA AND COUNSEL ARE PROHIBITED FROM MAKING THIS OPINION OR ORDER PUBLIC PRIOR TO 12:01 A.M. ON THE FILE DATE APPEARING BELOW

STATE OF MINNESOTA

IN SUPREME COURT

C5-86-332

Court of Appeals

WAHL, J.
Took no part, Kelley, J., Popovich, J.

In the Matter of the Application of Allard Christenson for a Permit to Drain Wetland 47-219 in Sections 6 and 7, Township 121 North, Range 32 West, Meeker County and Sections 1 and 12, Township 121 North, Range 33 West, Kandiyohi County, Minnesota.

Filed: December 24, 1987
Office of Appellate Courts

SYLLABUS

1. Minn. Stat. § 105.391, subd. 1 (1986), which provides for published notice of the inventory and mapping of the state's wetlands and public waters, is constitutionally valid on its face and as applied.

2. The reservation of existing rights contained in Minn. Stat. § 105.38(1) (1986) does not allow the applicant for a permit in this case to enlarge or rebuild private drainage ditches and drain a protected wetland.

Affirmed.

Heard, considered and decided by the court en banc.

OPINION

WAHL, Justice.

This case arises under Minnesota's public waters and wetlands legislation, Minn. Stat. § 105.39 (1986), 105.391 (1986) and related statutes, and concerns the denial of a permit to drain a protected wetland. Allard Christenson is requesting this court's review of a court of appeals' decision affirming the Department of Natural Resources (hereinafter, DNR) order rejecting his application to drain wetland 47-219 located on his 360-acre farm.[1] We affirm the decision of the court of appeals and order of the commissioner denying the permit.

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[1] The court of appeals, being equally divided, affirmed the commissioner's order without published opinion.

The Minnesota State Legislature, in 1976, and again in 1979, mandated an inventory of the state's public waters, and delegated the responsibility for classifying the state's waterbodies as public, wetland or neither to the Department of Natural Resources. 1976 Minn. Laws ch. 83 S 8 as amended by 1979 Minn. Laws, ch. 199 S 7 (codified as Minn. Stat. S 105.39 and related statutes.) Prior to 1976, there had been no systematic inventory of the state's waterbodies, and classification of waterbodies was made on a case-by-case basis. This ad hoc approach to regulation resulted in uncertainty, unknowing violations, and costly and time-consuming litigation.

The purpose of the mandated inventory was to identify, count, list and map the state's waterbodies according to specific statutory standards. The DNR began the process in 1976 and to the date of the hearing had completed notice and hearing procedures in all 87 counties. Over the last 11 years approximately 29,000 lakes, rivers and wetlands comprising nearly five million acres have been inventoried. Appeals regarding 24 of those waterbodies remain undecided. Christenson's appeal concerns an 80-acre, type 3 wetland located on his farm and identified as wetland 47-219.[2] The identification of this waterbody as a wetland is undisputed.

Allard Christenson, a resident of Mahnomen County, owns a 360-acre farm located in Meeker and Kandiyohi Counties. The farm was acquired by Christenson's great grandfather, Ole Christenson, in 1877. Allard was given a one-half interest by his father in 1975 and bought the other half interest from his uncle in 1983.

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[2] Minn. Stat. S 105.37, subd. 15, provides: "Wetlands" includes, and shall be limited to all types 3, 4, and 5 wetlands as defined in the United States Fish & Wildlife Service Circular No. 39 (1971 edition), not included within the definition of public waters, which are ten or more acres in size in unincorporated areas or 2-1/2 or more acres in incorporated areas.

In 1914, Christenson's grandfather, Martin Christenson, constructed drainage ditches in the low areas of the farm. The depth of these ditches was estimated to be three to four feet and their top width eight to nine feet, but the exact dimensions are unknown. No repairs or improvements have been made in these ditches since their original construction. A plan to repair the ditches in 1964 was abandoned. Christenson's father and uncle farmed the land until the mid-70's, when, because of their advanced ages, they leased the property to a neighbor who did not use the disputed wetland portion of the property.

In 1984, Christenson applied for a drainage permit to excavate vegetation and debris from the ditches, which were in Meeker County, and enlarge them to a top width of 20 feet and a depth of four to five feet. The permit was denied, and pursuant to Minn. Stat. § 105.44, a contested case hearing was held. At the hearing, the administrative law judge determined that ditches of the size proposed by Christenson would substantially drain the wetland, reducing it from a type 3 to an area not protected under current state law. Her recommendation to deny the permit was adopted by the commissioner on January 17, 1986. Christenson was offered, but rejected, compensation through the state water bank program.[3]

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[3] Minn. Stat. § 105.391, subd. 3, provides that: "no public waters or wetlands shall be drained, and no permit authorizing drainage of public waters or wetlands shall be issued * * * " The only statutory exceptions to this prohibition occur where (1) designated public waters or wetlands are replaced by public waters or wetlands having equal or greater public value, or (2) where the commissioner fails to make water bank compensation available to the landowner. In the case of wetlands situated on privately owned lands, an owner may apply to the commissioner for a permit to drain a designated wetland after the expiration of ten years following the original designation. Further, a landowner cannot be prevented from using a wetland or public water bed for pasture or cropland during periods of drought. Minn. Stat. 105.391, subd. 10. Finally, designation of waters as either public waters or wetlands does not grant to the public any greater right of access. Minn. Stat. 105.391, subd. 12.

The case raises two major issues: whether Minn. Stat. § 105.391, subd. 1 (1986), which provides for published notice of the inventory and mapping of the state's wetlands and public waters, is constitutionally valid on its face and as applied to the petitioner under the United States and Minnesota Constitutions; and whether the reservation of "existing rights" contained in Minn. Stat. § 105.38 (1) (1986) allows petitioner to enlarge or rebuild private drainage ditches and drain a protected wetland.

I

We recall at the outset that the state, through its police power, has been defining and protecting its public water resources since 1867. 1867 Minn. Laws, c. 40. Our research also makes clear that the state's regulatory authority over public waters and wetlands is independent from the inventory process which gave rise to the case before us. Although the statutory definition of public waters has changed over the last 90 years,[4] the state's authority to regulate and control such waters has been a constant since at least 1937. In that year, the legislature assigned to the Commissioner of Conservation (now the Department of Natural Resources) the task of supervising a permit system for the use and appropriation of the state's waters, thereby conserving this valuable resource. 1937 Minn. Laws, ch. 468. Further, this court has considered and repeatedly affirmed the legitimacy of the state's regulatory authority over the state's waterbodies. See, e.g. State v. Kuluvar, 266 Minn. 408, 123 N.W.2d 699 (1963); State v. Sheriff, 296 Minn. 177, 207 N.W.2d 358 (1973); State, Dept. of Natural Resources v. Olson, 275 N.W.2d 585 (Minn. 1979); Crookston Cattle v. Minn. Dept. of Natural Resources, 300 N.W.2d 769 (Minn. 1981).

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[4] See 1897 Minn. Laws, c. 257 § 1; 1937 Minn. Laws, c. 468 § 1; 1947 Minn. Laws, c. 142 § 2; 1957 Minn. Laws, c. 502 § 1; 1973 Minn. Laws, c. 315 § 4, 1976 Minn. Laws, c. 83 § 7; 1979 Minn. Laws, c. 199 § 2.

Although the legislature has expanded the list of waters to be placed under state regulation and control over the years, it has, at the same time, moved toward increasingly specific criteria for protected waterbodies, presumedly to eliminate the uncertainty resulting from the earlier, more ambiguous definitions. Nevertheless, there had not been a systematic inventory of all waterbodies under state regulation prior to 1976, and public waters determinations were made by the DNR or the courts on an ad hoc basis, as noted previously. In 1976, and again in 1979, the legislature mandated such an inventory. 1976 Minn. Laws c. 83, § 8; 1979 Minn. Laws c. 199, § 7. It is obvious, however, that there has been no departure from the policy of state control declared by the legislature 50 years ago. The permit system has been preserved since its inception in 1937, and nowhere in either the 1976 or 1979 statutes is the state's jurisdiction over public waters made dependent on completion of the inventory.

II

The first issue is whether Minn. Stat. § 105.391, subd. 1, which provides for published notice of the inventory and mapping of the state's wetlands and public waters, is constitutionally valid on its face and as applied to Allard Christenson. Christenson argues that the published notice required by the statute is inadequate to protect his due process rights under the United States and Minnesota constitutions and that, even if constitutional on its face, it was unconstitutionally applied to him. The state responds that the public waters inventory effects a legislative classification which does not require personal notice and, beyond that, it does not deprive Christenson of property rights protected by the due process clause of the constitution.

In deciding this issue, we are guided by the principle that a statute is construed to uphold its constitutionality and effect the intent of the legislature if possible. See

Housing and Redevelopment Authority v. Greenman, 255 Minn. 396, 403, 96 N.W.2d 673, 678 (1959). We will exercise the power of this court to declare a law unconstitutional only when absolutely necessary and then with great caution. Id.

Minn. Stat. § 105.391, subd. 1, describing the procedures to be followed in the inventory process, reads as follows:

> **105.391. Waters inventory and classification**
>
> Subdivision 1. On the basis of all information available to the commissioner and the criteria set forth in section 105.37, subdivisions 14 and 15, the commissioner shall inventory the waters of each county and make a preliminary designation as to which constitute public waters and wetlands. The commissioner shall send a list and map of the waters preliminarily designated as public waters and wetlands in each county to the county board of that county for its review and comment. The county board shall conduct at least one public informational meeting within the county regarding the commissioner's preliminary designation. After conducting the meetings and within 90 days after receipt of the list or maps, the county board shall present its recommendation to the commissioner, listing any waters regarding which the board disagrees with the commissioner's preliminary designation and stating with particularity the waters involved and the reasons for disagreement. The commissioner shall review the county board's response and, if in agreement with any of the board's recommendations, shall revise the list and map to reflect the recommendations. Within 30 days after receiving the county board's recommendations, the commissioner shall also notify the county board as to which recommendations are accepted and rejected and the reasons for the decision. After the revision of the map and list, if any, or if no response is received from the county board within the 90 days review period, the commissioner shall file the revised list and map with the recorder of each county and shall cause the list and map to be published in the official newspaper of the county. The published notice shall also state that any person or any county may challenge the designation of specific waters as public waters or wetlands or may request the designation of additional waters as public waters or wetlands, by filing a petition for a hearing with the commissioner within 90 days following the date of publication. The petition shall state with particularity the waters for which the commissioner's designation is disputed and shall set forth the reasons for disputing the designation. If any designations are disputed by petition, the commissioner shall order a public hearing to be held within the county within 60 days following the 90 day period, notice of which shall be published in the state register and the official newspaper of the county. The hearings shall be conducted by a hearings unit composed of one person appointed by the affected county board, one person appointed by the commissioner and one

> board member of the local soil and water conservation district or districts within the county who shall be selected by the other two members at least 20 days prior to the hearing date. * * * * Within 60 days following completion of the hearing, the hearings unit shall issue its findings of fact, conclusions and an order, which shall be considered the decision of an agency in a contested case for purposes of judicial review pursuant to sections 14.63 to 14.69. The commissioner, the county or any person aggrieved by the decision of the hearings unit may appeal from the hearings unit's order. Upon receipt of the order of the hearings unit and after the appeal period has expired, or upon receipt of the final order of the court in the case of an appeal, the commissioner shall publish a list of the waters determined to be public waters and wetlands. The commissioner shall complete the public waters and wetlands inventory by December 31, 1982.

The DNR began this inventory process in Meeker County in 1979. A preliminary list of designated public waters and wetlands was sent to the county board on December 19, 1979. A public information meeting was held on March 14, 1980. The 80-acre site located on the Christenson farm, designated as wetland 47-219, was inspected on April 22, 1980, and identified as a Type 3 wetland.

A map and list of designated wetlands was published in the Litchfield Independent Review on June 25, 1980. Notice also appeared in the Eden Valley Journal, The Cosmos Sun, The Dassel Dispatch, and The Watkins Patriot. Publication preceded the 90 day petition period during which any person or county could challenge the proposed designations or request additional designations. Fifteen petitions were received and a hearing convened on November 17, 1980. The petition period was then extended to December 15, 1980. The designation of wetland 47-219 was not challenged during either the first or second petition periods. Christenson learned of the designation in 1982.

In analyzing Christenson's challenge to the statute, we must ask how much process is due in the making of a public waters inventory. The rule is that "the requirements of due process must be measured according to the nature of the government function involved and whether or not interests are directly affected by the government action."

Barton Contracting Company, Inc., v. City of Afton, 268 N.W.2d 712, 715 (Minn. 1978). When a municipal governing body is taking an action which will affect "an open class of individuals, interests, or situations," that governing body is acting in a legislative capacity, and any rights of procedural due process in such proceedings are minimal. Id. at 715.

Barton Contracting concerned zoning decisions, but there is an obvious parallel between the public waters inventory and the establishment of zoning laws. Both processes classify and restrict uses; both result in maps identifying classifications; both provide for later hearings when landowners apply for a different use. In the waterbody inventory process, the only concern is the character of the water, not the owner or the owner's activities. The only issue is whether the waterbody meets certain statutory criteria. Furthermore, numerous state and local proceedings which have substantial effects on private land ownership and use depend on published notice only: e.g. waters inventory mandated by pollution control legislation, Minn. Stat. § 115.44; wild and scenic rivers designations, Minn. Stat. §§ 104.31-.40 (1986); as well as water inventory proceedings in other states, e.g. Mich. Stat. § 281.719 (1986).

Contrary to Christenson's assertion, cases from this court and the United States Supreme Court do not establish that the published notice provided by § 105.391, subd. 1 is inadequate. In fact, the very cases cited by Christenson for that proposition, acknowledge that the notice required by due process will vary with the circumstances and conditions of each case, making it "impossible to draw a standard set of specifications as to what is constitutionally adequate notice, to be mechanically applied in every situation." Schroeder v. City of New York, 371 U.S. 208, 212 (1962). In an earlier case, the Supreme Court reasoned that where the state interest is strong, "impossible or impractical obstacles" cannot be justified. Mullane v. Central Hanover Bank & Trust Co., 339 U.S. 306, 314 (1950).

In cases where statutory schemes for notice have been struck under due process requirements, courts were either reacting to the extent of forfeiture or deprivation exacted on the parties or focusing on the quality of notice actually provided under the facts of the case. In Schroeder, the city instituted proceedings to condemn rights, affecting Schroeder's property, required for the city's water system. Noting that appellant's home was a summer cottage, the Supreme Court held that published notice in a local newspaper during the month of January was not adequate. The Court also observed that posted notices did not appear anywhere on appellant's property nor did publications appear in newspapers serving the towns nearest appellant's property. In Mullane, where a trust company followed statutory notice procedures in its petition for a judicial settlement of accounts which might, or did, deprive beneficiaries of property, the Court held that published notice was sufficient as to any beneficiary whose interest or address was unknown to the trustee. However, such notice was not sufficient for those beneficiaries whose whereabouts were known. Under the facts of that case, a history of correspondence had been established with these latter beneficiaries; i.e., income had occasionally been remitted to them and notices of investments had also been made. But the Court acknowledged that "in the case of persons missing or unknown, employment of an indirect and probably even futile means of notification is all that the situation permits and creates no constitutional bar * * * " Mullane, 339 U.S. at 317 (cites omitted).

This court, too has been concerned with the nature of the deprivation when faced by a due process challenge to adequacy of notice. Where a special assessment is to be levied against property for a sanitary sewer improvement, published notice of the assessment hearing does not comport with due process requirements. Meadowbrook Manor, Inc. v. City of St. Louis Park, 258 Minn. 266, 104 N.W.2d 540 (1960). The property owner in Meadowbrook Manor had no actual notice of the assessment for the sanitary improvement made more than two miles distant from its property until it received a statement for the assessment from the county treasurer. Under those facts, we determined that mailed notice, rather than published notice, of the special assessment hearing was the notice "reasonably calculated" to inform the property owner before its property could be subjected to the lien of a special assessment. 104 N.W.2d at 545. Similarly, where forfeiture to the state of an owner's severed mineral interest could occur without an opportunity for a hearing, we held the published notice provision of the Mineral Registration Act to be in violation of due process. Contos v. Herbst, 278 N.W.2d 732 (Minn. 1979). "[N]otice by publication is inadequate," we concluded, "where forfeiture is the penalty imposed for mere failure to act." 278 N.W.2d at 743.

Christenson's case is a far cry from Meadowbrook Manor and Contos. Identification of Christenson's waterbody as a wetland under the public waters inventory does not affect either his ownership interest in the property or the public's access to it. Minn. Stat. § 105.391, subd. 12. Nor does that identification exact an undue financial penalty.

Personal notice is not required unless the interested party may otherwise lose a protected property right. Nor is personal notice required when the giving of such notice is not reasonably possible. Walker v. City of Hutchinson, 352 U.S. 112, 115.

To provide personal notice to all interested persons in the public water inventory process throughout the state would be a nearly impossible adminstrative task. Approximately 29,000 waterbodies were inventoried. The larger of these bodies have hundreds of riparian owners. The task of comparing public water maps with land records to determine owners and addresses could not possibly have been done in advance of the inventory process. It is clear to this court, as it was clear to the legislature, that an inventory process that stayed classification until every interested party received personal notice could result in wetlands being drained, ditched, and cropped prematurely. A statutory notice provision that would in any way delay formal designation of these waterbodies could jeopardize the protection of this natural resource whose value we recognized and endorsed in County of Freeborn v. Bryson, 309 Minn. 178, 243 N.W.2d 316 (1976).

The statutory notice scheme provided by Minn. Stat. § 105.391, subd. 1, incorporates many procedural safeguards to prevent erroneous designation: review by the county, information meetings, publication, public hearings and further published notices. In fact, in Christenson's case, actual procedures exceeded the statutory minimum. Publication of Meeker County's notice of a map and list appeared not only in the official county newspaper but also in all four other county newspapers. Meeker County's notice and map covered 2-1/2 pages with dimensions of 14 inches by 22 inches, certainly adequate to dispel the Mullane Court's concern for "small type in the back pages of a newspaper." Mullane, 339 U.S. at 315. Further, the inventory hearing unit allowed two, rather than one, petition periods in Meeker County.

We hold that Minn. Stat. § 105.391, subd. 1, which provides for published notice of the inventory and mapping of the state's wetlands and public waters is constitutionally valid on its face.

Christenson, however, also challenges the constitutionality of § 105.391, subd. 1 as it was applied in the designation of his wetland. He claims that because a small part of wetland 47-219 extends from Meeker County into Kandiyohi County, the DNR's failure to publish notice of inventory proceedings in Kandiyohi County newspapers violates due process. We find no merit in this argument. Christenson applied for permission to drain only the Meeker County wetland. The ALJ found that both portions could be drained independently. Although Christenson stated that clean-out of the Meeker County ditches would divert water from both portions, a close reading of his permit application reveals that his primary intention was to restore the pasture land, which according to testimony at the hearing, was located in Meeker County. Finally, there is no dispute that statutory procedures were followed in Meeker County and that a wetland exists. Thus, omission of publication in Kandiyohi County was, at most, a technical error which did not lead to an erroneous designation. We hold Minn. Stat. § 105.391, subd. 1, constitutional as applied.

III

The final issue for our determination is whether the reservation of "existing rights" contained in Minn. Stat. § 105.38(1) allows Christenson to enlarge or rebuild private drainage ditches and drain a protected wetland. He asserts that because the wetland was drained at some time in the past, he has an existing right under the statute to drain. The state maintains that no existing rights are infringed since riparian rights are protected and existing uses may continue. We agree with the state.

Section 105.38(1) provides, "Subject to existing rights all public waters and wetlands are subject to the control of the state." (Emphasis added.) We have construed "subject to existing rights" to mean "subject to existing riparian rights." Pratt v. State, 309 N.W.2d 767, 772 (Minn. 1981). In order to harvest wild rice, Pratt acquired three waterbodies which were subsequently declared public waters. He argued that his previous ownership of these waterbodies established an existing right to harvest using a mechanical picker, a more profitable method of harvesting than hand flailing. In determining that Pratt had riparian rights to grow and harvest wild rice, this court stated:

> * * * One may have rights to the use and enjoyment of the water, rights exclusive of the general public, through ownership of lakeshore or lakebed. These rights the law calls riparian. One does not own the water; one owns riparian rights to the use and enjoyment of the water. (emphasis added). Id. at 772.

Riparian rights are not restricted only to navigable waters. Johnson v. Sivert, 257 Minn. 159, 166, 100 N.W.2d 689, 695 (1960). Like other states having extensive recreational or commercial water resources, Minnesota upholds riparian rights without distinction between navigable and non-navigable, meandered or unmeandered, or public or private waters. Further, these rights are applicable to all waters which are subject to the protection and control of the state, including wetlands. See, In the Matter of the Application of the Central Baptist Theological Seminary, 370 N.W.2d 642, 646 (Minn. App. 1985).

Typical riparian activities include hunting, fishing, boating, sailing, and other domestic or recreational uses. Johnson v. Sivert, 100 N.W.2d 689, 697. While existing rights are not absolutely restricted to these enumerated riparian activities, Christensen's proposed drainage project does not fit any definition of existing riparian rights. He proposes not to use and enjoy the water, but to drain it, eliminating not only his riparian rights, but also the rights of any one who even remotely or indirectly benefits from the continued existence of this wetland. His activity would impair and destroy a protected wetland.

Drainage of wetland 47-219 would result in the loss of a significant wildlife habitat, and the administrative law judge so found. The wetland serves as habitat for both resident and migratory wildlife. It provides food, cover and resting areas for weasel, mink, muskrat, pheasant, fox, rabbit, hare, deer, a variety of song birds, rails and raptors. Approximately 60 muskrat houses were observed in the area in 1984. Although none of the wildlife identified above were threatened or endangered at the time of the hearing, they were, with the exception of weasel, "protected" within the meaning of Minn. Stat. § 97.40, subd. 6 (1984).[5]

In addition, water from wetland 47-219 flows through a channel to Lake Koronis, approximately two miles downstream. A delta has formed where the channel from this wetland enters the lake. Currently, Lake Koronis is experiencing serious water quality problems related to sedimentation and nutrients from agricultural run-off. Christenson's drainage project would have a negative effect on the water quality of Lake Koronis, since it would eliminate the wetlands' natural filtering system and add to the untreated nutrient and sediment-laden water flowing into Lake Koronis.

Christenson contends that his existing right to drain is also protected under the non-conforming use doctrine. This doctrine recognizes that when a land use lawfully exists prior to the enactment of a restricting government regulation, the landowner has a right to continue the use after the regulation comes into effect. County of Freeborn v. Claussen, 295 Minn. 96, 203 N.W.2d 323 (1972). He claims that because the ditches were first dug in 1914, 66 years before the DNR designated 47-219 as a protected wetland, the ditches were both pre-existing and lawful. As such, his right as a property owner to maintain this private drainage system is protected.

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[5] We note that this statute was subsequently repealed. 1986 Minn. Laws, c. 386, art. 4, § 33.

While this argument might be appropriate in some circumstances, its applicability here is limited by the actual facts. The record shows that while the ditches were originally constructed around 1914, no subsequent maintenance occurred. The 1938 aerial photographs indicated a wetland area of approximately 85.2 acres. According to stereoscopic photographic analysis, later photos (1950-1979) taken by the U.S. Agricultural Stabilization and Conservation Services (ASCS) confirmed wetland acreage approximately 79.7 through 84.5 acres. These photos, taken at random times throughout those years (e.g. September, May, June), revealed no evidence of ditch cleanout or maintenance.

The wetland itself has not been used since its rental to neighboring farmers in the mid-1970's. The administrative law judge found that the wetland was not of recent origin nor the result of recent human activities in the area. A series of aerial photographs showed aquatic vegetation and persistent saturation of the soil from at least 1938 to the time of the hearing. In addition, United States Soil Conservation Service Maps showed evidence of palms soil, a typical wetland soil, described as "a very poorly drained, neutral soil formed in a very friable, shallow, highly decomposed plant material. It occupies old lakes, marshes and potholes on glacial moraines. * * * " Administrative Law Judge, Findings of Fact, Conclusions and Recommendations. August 23, 1985. The wetland was never plowed or planted in row crops, but was used occasionally for hay crops and regular grazing during dry years, a use not inconsistent with a wetland determination. We find no non-conforming use which must be protected beyond preventing the state from requiring Christenson to either destroy or fill in what is left of his drainage system.

We hold that the reservation of existing rights contained in Minn. Stat. § 105.38(1) does not allow Christenson to enlarge or rebuild private drainage ditches and drain a protected wetland.

Over ten years ago this court cited the conservationist Aldo Leopold for his espousal of a "land ethic" which envisions a community of interdependent parts. "The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land." County of Freeborn v. Bryson, 243 N.W.2d at 322, citing Sand County Almanac (1949) p. 203. We reaffirm our statement there that the state's environmental legislation had given this land ethic the force of law, and imposed on the courts a duty to support the legislative goal of protecting our state's environmental resources. Vanishing wetlands require, even more today than in 1976 when Bryson was decided, the protection and preservation that environmental legislation was intended to provide.

Under Minnesota's environmental protection act no permit for "natural resource management and development" can be issued where the activity will cause "pollution, impairment or destruction" of natural resources. Minn. Stat. 116D.04, subd. 6 (1986). Christenson's proposed ditching project would result in 1) impairment and destruction of a protected wetland; 2) it would interfere with a wildlife habitat; and 3) eliminate an area that has the natural capacity to improve the quality of water on its way to Lake Koronis. He has not sustained his burden of proving the project would be reasonable, practical and would adequately protect the public safety and promote the public welfare, as required by Minn. Stat. § 105.45. We affirm the commissioner's order denying Christenson's application for a permit to enlarge or rebuild private ditches to drain wetland 47-219.

Affirmed.

Kelley, J. and Popovich, J. took no part in the consideration or decision of this case.

Memorandum of Agreement
Between the Minnesota Department of Natural Resources and the Minnesota Pollution Control Agency Establishing Procedures Governing State Permit Review of Activities in Waters of the State of Minnesota

I. INTRODUCTION

The Minnesota Department of Natural Resources (DNR) and Minnesota Pollution Control Agency (PCA) have been developing interagency agreements to improve coordination and understanding on matters of mutual concern and interest. Specifically, the purpose of these Memorandums of Agreement (MOA) is to provide uniform, systematic administrative policies and procedures that create an effective working relationship and improve coordination and communication between the staffs of the DNR and PCA in support of common objectives, interests, and statutory requirements.

In 1984, a cooperative agreement between the DNR and PCA was developed concerning state permit review of certain activities in Minnesota public waters. That agreement addressed only the DNR protected waters permit program and cooperation among DNR, PCA and U.S. Army Corps of Engineers (USCOE). Since then, other water resource management issues requiring MOA's have been identified. These issues are:

1. Data base integration and information exchange.
2. Nonpoint source pollution program.
3. Lake studies program.
4. Mining permits and environmental review.
5. Water appropriation permits for groundwater pumpouts.
6. USCOE channel maintenance activities.
7. Low flow protection.
8. Reservoir releases including hydropower facilities.

All the above issues pertain to DNR water regulatory programs, however issues 4, 5, 7, 8 are directly related to the DNR, Division of Waters state water permit programs. Mining permits and groundwater pumpout permits are contained within separate existing MOAs. The last two issues, low flow and reservoir releases, did not fall within the jurisdiction of any other MOAs. Thus, to expedite the cooperative agreements and ensure their success, the two agencies agreed to amend the existing MOA on protected waters permits and supplement it with the low flow and reservoir release criteria.

Appendix A: Protected Waters Permits is from the original agreement between DNR, PCA, and USCOE. Appendix B: Water Appropriation and Low Flow Protection (NOTE: Groundwater appropriations are included in this MOA, however, responsibilities on groundwater appropriations for pumpouts related to contamination sites are contained within the Groundwater Pumpout MOA) and Appendix C: Reservoir/Hydropower Releases are added to the original agreement. These supplements identify the activities regulated under DNR permit authorities that also will be subject to PCA review for assessment of potential water quality impacts. The review procedures outlined in the main document also pertain to these appendices. Additional procedures that apply only to low flow issues or reservoir releases are outlined within the specific supplements. Any other MOAs that are relevant to these issues have been referenced where appropriate.

II. USCOE GENERAL PERMITS RESPONSIBILITIES

A. Subchapter IV of the Clean Water Act, 33 U.S.C. 1341-1345 (1977) establishes permitting requirements associated with activities which may result in discharges into navigable waters of the United States. Section 401 of the Clean Water Act (33 U.S.C. 1341) incorporates state review into these permitting requirements by precluding the issuance of a federal license or permit until the state in which the proposed activity would occur has issued, denied or waived certification of the activity in accordance with the provisions of section 401.

B. Section 404 of the Clean Water Act (33 U.S.C. 1344) authorizes the Secretary of the Army, acting through the Chief of Engineers of the U.S. Army Corps of Engineers, to issue permits for dredged or fill material. Section 404 (e)(1) authorizes the Secretary of the Army to issue general permits for "categories of activities" involving discharges of dredged or fill material.

C. Section 401 state certification provisions apply to permits and licenses issued by the Secretary of the Army under section 404.

D. In Minnesota, the state agency responsible for issuing, denying or waiving certification under section 401 is the Pollution Control Agency (PCA).

E. By issuing state permits regulating activities in the bed of public waters, water appropriations from all surface and groundwater in the state, and reservoir operations as defined in Minn. Stat. 105, the Minnesota Department of Natural Resources (DNR) also exercises authority to regulate activities affecting the public waters of the state.

F. In implementing section 404, the U.S. Army Corps of Engineers adopted interim final regulations purporting to authorize certain activities. These regulations are set out at 47 Fed. Reg. 31800-31834 (July 22, 1982) (33 CFR Parts 320-330). The Corps interim final regulations provide that the permits to be issued by the Corps "will be in the form of individual permits or general permits" [33 CFR Part 325.5(a)]. "General permits" include both "nationwide permits" and "regional permits".

1. A nationwide permit is a form of general permit which authorizes a category of activity throughout the nation.

The nationwide permits adopted by the Corps are set out at 33 U.S.C. Part 330. Division engineers of the Corps, on their own initiative or upon recommendation of a district engineer, may modify nationwide permits by adding regional conditions or may override nationwide permits by requiring individual permits. 33 CFR Part 330.7.

2. In addition to the general permits created under the regulations of the Corps, general permits may be issued on a regional basis by a district engineer acting under 33 CFR Part 325.5(c)(1).

G. The State of Minnesota, through its PCA and DNR, commented that the proposed USCOE permit regulations would adversely affect the environment in Minnesota. In addition, the PCA denied certification of the regulations/permits.

H. In Minnesota, the St. Paul District of the Corps implements the regulations establishing nationwide and general permits under section 404. The St. Paul District has authority to negotiate and implement regional conditions amending the nationwide and general permits adopted by the Corps.

I. The St. Paul District, the PCA and the DNR have negotiated regional conditions and a general permit procedures to be implemented in Minnesota.

J. The basis for this agreement are the relevant Corps of Engineers regulations (33 C.F.R. Sections 325.2(b), 328 and 330). Nationwide permits were established by these regulations and general permits were established pursuant to these regulations for the State of Minnesota.

III. PURPOSE

This document is a cooperative agreement between the PCA and the DNR. The PCA and DNR each have authority to protect the waters of the State of Minnesota from adverse impact resulting from activities in those waters or appropriation of those waters. For federal activities and activities regulated pursuant to Federal permits, the PCA exercises its authority by issuing, denying or waiving certification under Section 401 of the Clean Water Act. The DNR exercises its authority by issuing, modifying, or denying State permits and providing conditions for federally conducted or regulated activities pursuant to the authorities granted under the Fish and Wildlife Coordination Act and other acts of Federal law. To some extent the review and authority of the PCA, DNR and various federal agencies overlap.

To promote efficiency and reduce duplication in work efforts, the PCA, DNR and Corps have developed a series of documents:

(1) regional conditions supplementing and revising the nationwide and general permits to be applied in Minnesota, and;

(2) three sets of documents describing the agencies' various regulatory responsibilities regarding activities falling within the nationwide and general permits. These three documents are: (a) an agreement between the Corps and the PCA; (b) an agreement between the Corps and the DNR; and, (c) an agreement between the PCA and DNR. Together, the three documents will integrate and streamline the permit process for activities regulated under section 404 of the Clean Water Act and/or state law.

This cooperative agreement between the PCA and DNR is the third of the three cuments described in (2), above, and establishes procedures through which the cies will coordinate their review of proposed activities. The supplements appended to this document integrate additional permit and water resource management issues concerning low flow protection and reservoir releases.

IV. PERMIT PROCEDURES

A. Notification procedures.

1. With each set of permit application instructions and documents the DNR sends to potential applicants, the DNR will include a copy of the appropriate checklist appended to this agreement in Appendix A, B or C.

2. All applicants for DNR permits shall be required to complete the checklist in Appendix A for protected waters permits; Appendix B for water appropriation permits; and, Appendix C for dam or reservoir releases.

3. Upon receipt of a permit application, the DNR Regional Hydrologist or Dam Safety Supervisor shall review the completed application and appended checklist to determine if the proposed project would involve any of the activities listed in that checklist.

4. If the permit applicant proposes to conduct any activity listed in Appendix A, B, or C, the DNR Regional Hydrologist or Dam Safety Supervisor shall forward a copy of the permit application to the PCA, within five days after receiving the application.

5. The DNR may solicit comments from the PCA on projects where the DNR feels it may serve to protect the public interest. The PCA will respond in writing to the DNR requests within ten working days of receipt.

6. With each National Pollutant Discharge Elimination System (NPDES) or Solid Disposal System (SDS) permit application that the PCA sends to potential applicants for new or expanded discharges, the PCA shall include a copy of the checklist appended to this agreement in Appendix B. Within five working days after receipt of the permit application, the PCA will forward a copy of the checklist to the DNR, Division of Waters.

7. The DNR and PCA are not required under this agreement to notify the other respective agency of applications for permits for activities other than those checked on the relevant Checklist.

B. Standard Conditions to be included in DNR permits

1. In the event that an applicant for a permit proposes (a) to excavate or dredge the bed or banks of protected waters; (b) to conduct activities involving the use of cofferdams; or, (c) to construct new or reconstruct existing dams or control structures; and, (d) to appropriate from streams/rivers, the DNR shall include in any permit it issues for the proposed project the following conditions:

a. Excavation and dredging.

(1) When feasible and practical, excavation shall be conducted from landward areas toward the protected water and breakthrough shall occur at the last practical moment.

(2) Excavated materials shall not be deposited or stored along side the protected water in a manner where the materials can be redeposited into the protected water by reasonably expected high water or storm runoff.

b. Construction, reconstruction or repair involving the use of cofferdams.

(1) In dewatering cofferdams, the permittee must seal the bottom of the cofferdam, install and use a well point or gravel filter, provide treatment ponds, or implement equivalent measures to protect water quality from degradation resulting from suspended solids.

(2) Foundations may be backfilled to pre-excavation bottom contours with non-polluted natural sand and covered with coarse natural materials. The cofferdam then may be flooded and sheet piling removed. Hydraulic methods shall not be utilized to return fill materials to protected waters unless a separate permit or approval is obtained from the PCA.

c. Construction of new or reconstruction of existing dams or control structures.

(1) The Permittee shall comply with all other Federal, State and local laws and regulations and shall obtain such other permits as may be required including, but not limited to the Minnesota Pollution Control Agency and/or the U.S. Corps of Engineers.

(2) If the Permittee finds at any time during construction or operation that, in order to adequately protect the environment or public health, safety or welfare, immediate alterations to the approved plans and specifications are required, or emergency drawdowns are necessary, the alterations or drawdowns may be started, but the Permittee shall promptly notify the Director of the Division of Waters of such requirements. If the alterations are to remain as permanent project features, the Permittee shall, within 60 days from installation, revise the plans and specifications and submit the revisions to the Director of the Division of Waters for approval.

(3) The Permittee shall develop a documented operation and maintenance plan for the dam, and submit copies to the Director of the Division of Waters for approval prior to the structure being placed in operation. The plan shall include objectives and policies for water level and water quality management and shall describe operating procedures for typical flow conditions, high flow and flood conditions, low flow conditions including instream flow protection, disposal of floatable trash and man-made litter accummulating at the structure, drawdowns, and other proposed reservoir releases. The plan shall include necessary survey documentation to identify structure/control elevations and the reference marks used. The operation/maintenance plan shall include provisions for periodic review and update by the DNR, PCA, USCOE, and other appropriate federal, state and local agencies. The water quality management procedures shall be submitted to the PCA Director of Water Quality to be approved prior to the structure being placed in operation. The PCA Director of Water Quality shall respond to the permittee and the DNR within 30 days after submittal of the water quality plan. The permittee shall keep complete records of all maintenance and repair work conducted for the dam.

d. Appropriation from streams/rivers:

1) from streams/rivers without protected flows

The Division of Waters may establish a gage near the point of taking and, at such time as sufficient data becomes available, may establish a protected flow and may require the curtailment of appropriation during periods of low flow in order to maintain a desirable flow in the stream.

2) from streams/rivers with protected flows

Upon notification the appropriation authorized by this permit shall cease whenever the discharge in the__________(river/stream) near _______(location) is ____cubic feet per second or less at the________gaging station located on said source in Sec.___, T___, R___, ________County. Appropriation shall resume only when the discharge is sufficient to compensate for the reduction of flow caused by the total draft of all appropriators from the stream and only when the permittee is so notified and given permission by the Division of Waters.

2. In the event that additional standard provisions are developed and mutually agreed upon by the DNR and PCA, such provisions will be added as a supplement to this agreement.

C. Special conditions to be included in DNR permits.

1. For any permit application submitted to the DNR involving the activities listed in Appendix A, B or C the PCA may recommend that the DNR include special conditions governing the proposed project or may notify the DNR that the PCA intends to issue a separate permit or approval for the proposed project.

a. It is the current practice of the DNR to notify the appropriate Soil and Water Conservation District (SWCD) of a proposed project and to provide the SWCD an opportunity to comment on each project.

b. At the same time it sends this information to the SWCD, the DNR shall submit to the PCA a copy of the cover letter and other information sent to each SWCD.

c. Within thirty days of receipt of a copy of this information, the PCA shall submit to the DNR its comments and recommendations regarding special conditions.

d. If the DNR changes its current practices of notifying and providing a comment period to each SWCD, the DNR immediately will notify the PCA of the change.

e. The provisions of this agreement shall not be construed as a limit on the authority of the PCA to comment on any application submitted to the DNR.

2. In the event that the PCA notifies the Regional Hydrologist or the Dam Safety Supervisor that the PCA will be requiring a separate permit, the DNR may proceed to process its permit, but will include in any permit it issues for the proposed project a condition stating that the DNR permit is not effective or valid

until the PCA has issued a permit for or has otherwise approved the proposed project.

3. In the event that the PCA would like the DNR to insert a special condition into any permit listed in Appendix A, B or C where the DNR proposed to issue the permit, the following procedures shall apply.

a. The PCA will provide the Regional Hydrologist or the Dam Safety Supervisor, within the time limit specified in C.1.c. above, with the specific language which the PCA would like included in the DNR permit and the basis for the request.

b. If the DNR agrees with the specific language recommended by the PCA, such language will be inserted in the DNR permit.

c. If the DNR objects to the specific language recommended by the PCA and the matter cannot be resolved by the two parties, the DNR will proceed to issue the permit.

d. If a separate PCA permit or approval is required, the DNR permit shall include a provision that it is not effective or valid until the PCA has issued its permit or approval for the project.

D. Water quality considerations by DNR in issuance, modification or denial of permits

In accordance with applicable DNR and PCA rules, all permits will otherwise be conditioned so as to minimize the impacts to water quality and the natural resources of the state. Measures which minimize sedimentation and habitat disruption shall be considered, and to the maximum feasible and practicable extent shall be incorporated in the permits.

V. NON-APPENDIX ACTIVITIES WHICH REQUIRE ENVIRONMENTAL REVIEW

A. For projects which require environmental review for which the DNR is the Responsible Governmental Unit (RGU), and involve activities other than those listed in the appendices, the PCA may submit comments to the DNR within the allotted comment period and may recommend the inclusion of special conditions in any permit the DNR proposes to issue in conjunction with the environmental review.

B. If the DNR agrees with the specific language recommended by the PCA, such language will be inserted in the DNR permit.

C. If the DNR objects to the specific language recommended by the PCA a staff level meeting between the PCA and DNR (Division of Waters, Central Office) shall be held. Following the meeting, the DNR shall submit to the PCA a written response to the PCA's comments. The DNR may then proceed to issue the permit.

D. The provisions of this agreement shall not be construed as a limit on the authority of the PCA to comment on any application submitted to the DNR.

VI. HEARINGS

In the event that a public hearing is requested on a DNR permit which also involves a PCA permit or approval action and both agencies agree that a joint hearing would be appropriate to save time and expense, the DNR and PCA shall arrange for a joint hearing. The agencies will divide the hearing costs in proportion to the hearing time and expenses which can be attributed to the issues relevant to each agency.

VII. ENFORCEMENT

DNR and PCA agree to cooperate in monitoring compliance with all permits issued under this agreement and to inform each other of all noted violations of the permit and any other relevant information. Each agency shall be responsible for enforcing its own permits, approvals, laws or rules.

VIII. MODIFICATION

This agreement may be amended or revised upon the written mutual agreement of both parties.

IX. EFFECTIVE DATE

This agreement shall become effective upon the signature of both parties.

X. TERMINATION DATE

The DNR or the PCA may cancel this agreement by written notification to the other party. Termination shall occur thirty days after the written notification is received. Termination may occur earlier by the mutual agreement of both parties.

Joseph N. Alexander

JOSEPH N. ALEXANDER
Commissioner
Department of Natural Resources

Date: 5 Apr 89

Gerald L. Willet

GERALD L. WILLET
Commissioner
MN Pollution Control Agency

Date: 4/21/89

APPENDIX A - CHECKLIST
NOTICE TO APPLICANTS FOR DNR PERMITS TO CHANGE THE COURSE, CURRENT OR CROSS-SECTION OF PROTECTED WATERS

The Department of Natural Resources (DNR) and the Pollution Control Agency (PCA) are working together to avoid duplication in state agency review of proposed activities affecting water resources of the state. This form was prepared by the DNR and the PCA to minimize your work in contacting state agencies for project approval.

Please complete this form by placing an "X" in the appropriate box or boxes. If your project or proposed activity does not involve any of the actions listed on this form, place an "X" in the box after item 9.

If your proposed project or activity will involve any of the actions listed for boxes 1 through 8, a copy of your DNR permit application will be forwarded to the PCA for their review. If a separate PCA permit or approval is required, you will be so notified by the PCA.

In addition, please be advised that projects which will involve drainage, excavation, fill or impoundment of wetlands or waters of the United States, even those wetlands outside of the jurisdiction of the DNR, may require an individual permit from the U.S. Army Corps of Engineers. Persons proposing such projects should contact the Regulatory Functions Branch, U.S. Army Corps of Engineers, 1421 U.S. Post Office and Custom House, St. Paul, Minnesota 55101 [telephone: (612) 220-0375] for further information.

Place an "X" in the box, if applicable.

1. The project will involve the deposition of asphalt, concrete, cut vegetation or other solid waste as fill material. ☐

2. The project will involve excavation of materials from protected waters through the use of any device which removes materials by pumping or suction action (i.e. hydraulic dredging). ☐

3. The project will involve excavation of more than 1,000 cubic yards of material from the beds of the following waters: ☐
    a. Lake Pepin on the Mississippi River (River miles 763 to 787 USCE Charts). ☐
    b. Pool #2 in the Mississippi River from Lock & Dam #1 (the Ford Dam) to Lock & Dam #2 (Hastings-River miles 725 to 814 USCE charts). ☐
    c. Minnesota River from Savage to its mouth at the Mississippi River (Mile 844 USCE River chart). ☐
    d. Duluth Superior Harbor and the St. Louis Bay area of the St. Louis River extending to Spirit Lake. ☐
    e. The Fairmont chain of lakes including Budd, Siseton, Hall, and Amber Lakes in Martin County. ☐
    f. Albert Lea Lake, Freeborn County. ☐
    g. Warroad River Upper Harbor Area extending from mouth of the Warroad River to CSAH No. 11. ☐
    h. Red River of the North from Wahpeton to the Canadian border. ☐

4. The project will involve excavatiun and/or fill in protected waters for construction of utility lines carrying any materials except treated water in a liquid or semi-solid state, including but not limited to petroleum or petroleum products, chemicals, sewage or coal slurries. ☐

5. The project will involve construction of docks, piers or wharves which will involve new fuel handling facilities. ☐

6. The project will involve new construction, reconstruction or repair of structures for generation of hydroelectric power. ☐

7. The project will involve construction of new ancillary facilities for sanitary sewers, boat pumpouts, on-site waste treatment or holding tanks. ☐

8. The project will involve the on-site disposal by burning of vegetation to be removed during project construction. ☐

9. The project will not involve any of the above. ☐

Applicant name (type or print) ____________________

Applicant signature ____________________

Applicant address ____________________

____

APPENDIX B
WATER APPROPRIATION AND LOW FLOW PROTECTION

I. DESCRIPTION AND PURPOSE

A. The Minnesota Department of Natural Resources (DNR) and the Minnesota Pollution Control Agency (PCA) agree that proper development and management of water resources includes the need to safeguard water availability and quality in watercourses during periods of low flow in order to protect instream uses and downstream priority users. Coordinated management of natural and man-made low flows is required to protect the resource's availability and use for domestic, industrial, and agricultural water supplies; fish and wildlife; waste assimilation; recreation; power generation; and navigation.

B. This supplemental agreement shall identify and define authorities of the DNR and PCA relative to water resource protection, management, and conservation and shall identify the DNR and PCA concerns on low flow and instream flow protection.

II. GENERAL PROVISIONS

A. Nothing in this supplemental agreement alters the statutory authorities or responsibilities of the DNR or PCA.

B. Pursuant to the authorities contained in Minnesota Statutes Chapters 84 and 105, the DNR is charged with the following responsibilities:

1. Develop and manage water resources to assure a supply adequate to meet long range seasonal requirements for domestic, municipal, industrial, agricultural, fish and wildlife, recreational, power, navigation, and water quality control purposes from ground or surface water sources or from a combination of these [M.S. 105.405].

2. Control and supervise through regulations and permits the appropriation and use of surface or ground waters of the state including the authority to deny the discharge of the appropriated water into any water source in order to prevent impairment of the receiving water [M.S. 105.415].

3. Coordinate the review of permit applications with other units of government having jurisdiction in such matters [M.S. 105.415, Minnesota Rules Part 6115.0640]].

4. Develop protected flows to protect instream uses where data are available. Protected flow is defined as the amount of water required in the water course to accommodate instream needs such as water-based recreation, navigation, aesthetics, fish and wildlife habitat, water quality, and needs by downstream higher priority users [M.S. 105.417, Minnesota Rules 6115.0630, 6115.0670].

5. Require the development and implementation of water conservation and drought contingency plans [M.S. 105.417, 105.418, Minnesota Rules Part 6115.0770].

6. Prepare mandatory Environmental Assessment Worksheets (EAWs) for new commercial or industrial appropriations from surface or groundwater that average 30,000,000 gallons per month or exceed 2,000,000 gallons in any day during the period of use and for irrigation of 540 acres or more in one continuous parcel from one source of water. [Minnesota Rules Part 4410.4300, Subpart 24.A.]

C. The PCA is charged with the responsibility to prevent, control, or abate water pollution throughout the State of Minnesota and is given specific statutory powers and duties under Chapter 115, including the following:

1. Administer and enforce all laws relating to the pollution of waters of the state. Water pollution is the discharge of any pollutant into any waters of the state or the alteration made or induced by human activity of the chemical or physical integrity of waters of the state.

2. Investigate pollution and gather data necessary to enforce pollution laws.

3. Establish standards of quality for waters of the state.

4. Require waste treatment, including advanced waste treatment when justified, to control and prevent pollution.

5. Issue and enforce orders, permits, variances, standards, regulations, schedules of compliance, and stipulation agreements to prevent, control, or abate water pollution.

6. Develop and implement water pollution control planning processes, management plans, and programs authorized or required by the state and pursuant to the Federal Clean Water Act, as amended.

7. Provide financial and technical assistance to local units of government under the Minnesota Clean Water Partnership program in order to protect and improve surface and ground water by controlling pollution associated with land use and land management activities.

D. Minnesota Rules Chapter 7050 include general provisions applicable to the maintenance of water quality and aquatic habitats. These Rules require the PCA to control discharges of sewage, industrial waste, or other wastes so that water quality standards will be maintained at stream flows exceeded by the seven consecutive day average low flow having a 10-year recurrence interval (7Q10 flow). No allowance is made in the design of treatment works for low stream flow augmentation unless such flow augmentation of minimum flow is dependable and controlled under applicable laws or regulations.

III. SPECIFIC PROVISIONS

A. Each party will facilitate and monitor the implementation of this supplemental agreement.

B. The DNR agrees to:

1. Require the completion of Appendix B - Checklist by applicants for DNR water appropriation permits.

2. Request PCA review of permit applications for proposed water appropriations identified in Appendix B - Checklist.

3. Notify the PCA on any proposed establishment of protected flows to accommodate instream and downstream uses.

C. The PCA agrees to:

1. Provide technical evaluation and recommendations for monitoring and mitigative actions that may be required to maintain the water quality standards of the affected surface water.

2. Provide technical assistance for water quality sections of EAW or EIS reports prepared by the DNR.

3. Require the completion of Appendix B - Checklist by applicants for new and expanding PCA issued National Pollutant Discharge Elimination System (NPDES) and State Disposal System (SDS) permits.

4. Continue to provide DNR Division of Waters and DNR Office of Planning with 30-day notification and opportunity to comment on the proposed issuance or re-issuance of NPDES or SDS permits and provide upon request any additional information relative to the effluent discharge, including flow rates, volumes, frequency, duration, and location.

5. Consider and review DNR comments on proposed NPDES and SDS permits. Incorporate DNR concerns into final permits or provide DNR with a written response to comments.

6. Provide available water quality information when requested by DNR, as per Data Management Memorandum of Agreement, for evaluating water-based recreation potential during low flow periods.

7. Provide DNR Division of Waters with annual listings of NPDES and SDS permit holders.

D. Both parties agree to:

1. Provide timely notification and cooperate in the investigation of impairments to aquatic or terrestrial life, to water based recreation, or to any other beneficial uses of public waters that are caused by substandard water quality or degraded aquatic habitats during periods of low flow.

2. Cooperate, whenever practical, in data collection efforts designed to assess low flow impacts. Provide field personnel and/or equipment when requested, subject to availability constraints imposed by each agency's on-going program responsibilities. All requests and commitments of field personnel must receive appropriate approval within each agency.

3. Maintain a list of appropriate contact staff.

4. Share information and data bases as per Data Management Memorandum of Agreement.

5. Review proposed ground water pump-out activities as per procedures established in the Cooperative Agreement between the PCA and DNR regarding pump-outs.

6. Coordinate the review of proposed mining activities as per Memorandum of Agreement for Cooperative Involvement in the Regulation of Mining Industries.

APPENDIX B - CHECKLIST

NOTICE TO APPLICANTS FOR DNR PERMITS TO APPROPRIATE AND USE SURFACE AND GROUND WATERS OF THE STATE

The Department of Natural Resources (DNR) and the Pollution Control Agency (PCA) are working together to avoid duplication in state agency review of proposed activities affecting water resources of the state. This form was prepared by the DNR and the PCA to minimize your work in contacting state agencies for project approval.

Please complete this form by placing an "X" in the appropriate box or boxes. If your project or proposed activity does not involve any of the actions listed on this form, place an "X" in the box after item 7.

If your proposed project or activity will involve any of the actions listed for boxes 3 through 6, a copy of your DNR permit application will be forwarded to the PCA for their review. If a separate PCA permit or approval is required, you will be so notified by the PCA.

In addition, please be advised that projects which will involve drainage, excavation, fill or impoundment of wetlands or waters of the United States, even those wetlands outside of the jurisdiction of the DNR, may require an individual permit from the U.S. Army Corps of Engineers. Persons proposing such projects should contact the Regulatory Functions Branch, U.S. Army Corps of Engineers, 1421 U.S. Post Office and Custom House, St. Paul, Minnesota 55101 [telephone: (612) 220-0375] for further information. For more information on the following actions please call the PCA at (612) 297-1832.

Place an "X" in the box, if applicable.

1. Purpose of the project ______________________________

2. Is the appropriated water used only for upland crops (excluding wild rice). ☐

3. Following its use, the appropriated water will be discharged directly, retained for later discharge, or collected and returned via a drainage system to surface waters of the state. ☐

   If the return flow is currently regulated under an NPDES discharge permit issued by the PCA, then enter permit number: ______________ ; otherwise, attach a map or drawing with sufficient detail to show locations(s) of return flow discharge(s) and receiving waters.

4. The project will result in diversion of surface water from one waterbody to another or ground water from one aquifer to another aquifer. ☐

5. The project will involve ground water pumpout for remedial action at a site with contaminated ground water. ☐

6. The project will involve water appropriation for mining operations. ☐

7. The project or activity will not involve any of the above. ☐

Applicant name (type or print) ______________________________

Applicant signature ______________________________

Applicant address ______________________________

APPENDIX B - CHECKLIST

NOTICE TO APPLICANTS FOR PCA PERMITS TO DISCHARGE INTO WATERS AND ONTO LAND IN THE STATE OF MINNESOTA

The Department of Natural Resources (DNR) and the Pollution Control Agency (PCA) are working together to avoid duplication in state agency review of proposed activities affecting water resources of the state. This form was prepared by the DNR and the PCA to minimize your work in contacting state agencies for project approval.

Please complete this form by placing an "X" in the appropriate box or boxes and supply the requested information. If your project or proposed activity does not involve any of the actions listed on this form, place an "X" in the box after item 5.

If your proposed project or activity will involve any of the actions listed for boxes 1 through 4, a copy of your PCA permit application will be forwarded to the DNR for their review. If a separate DNR permit or approval is required, you will be so notified by the DNR.

In addition, please be advised that projects which will involve drainage, excavation, fill or impoundment of wetlands or waters of the United States, even those wetlands outside of the jurisdiction of the DNR, may require an individual permit from the U.S. Army Corps of Engineers. Persons proposing such projects should contact the Regulatory Functions Branch, U.S. Army Corps of Engineers, 1421 U.S. Post Office and Custom House, St. Paul, Minnesota 55101 [telephone: (612) 220-0375] for further information. For more information on the following questions please call the DNR at the Regional or Area office listed on the back of this form for the county in which the project is located.

Place an "X" in the box, if applicable.

1. The project will or does require appropriation of water from a groundwater source. ☐

2. The project will or does require appropriation of water from a surface water source. ☐

   What is the location of the appropriation
   ____Sec.____Twp.____Range_______________County

   Please enclose a map showing the location.

3. What is the maximum daily appropriation (withdrawal) rate?______________gallons per day

4. What is the annual appropriation (withdrawal) rate?
   ________________gallons per year

5. The project does not appropriate any water. ☐

Applicant name (type or print) ____

Applicant signature ____

Applicant address ____

APPENDIX C

RESERVOIR/HYDROPOWER OPERATIONS

I. DESCRIPTION AND PURPOSE

A. The Minnesota Department of Natural Resources (DNR) and the Minnesota Pollution Control Agency (PCA) agree that proper development and management of water resources includes the need to regulate the release of water from man-made impoundments (reservoirs) to ensure protection of instream uses, water quality, downstream priority users, and reservoir users. Lack of operation plans and/or uncontrolled releases threaten the resource's availability and use for domestic, industrial, and agricultural water supplies; fish and wildlife; waste assimilation; recreation; power generation; and navigation.

B. This supplemental agreement shall identify and define authorities of the DNR and PCA relative to water resource protection, management, and conservation and shall identify the DNR and PCA concerns for impoundment releases.

C. Operations of concern may include, but are not limited to reservoir releases and/or impoundment drawdowns for:

-structure maintenance and repair;
-structure removal;
-construction or physical changes within protected waters;
-flood control;
-downstream flow augmentation;
-power generation;
-navigation and channel maintenance;
-agricultural operations;
-fish and wildlife management;
-recreation;
-storm runoff water control; and,
-mining operations.

II. GENERAL PROVISIONS

A. Nothing in this supplemental agreement alters the statutory authorities or responsibilities of the DNR or PCA.

B. Pursuant to the authorities contained in Minnesota Statutes Chapters 84 and 105, the DNR is charged with the following responsibilities:

1. Develop and manage water resources to assure a supply adequate to meet long range seasonal requirements for domestic, municipal, industrial, agricultural, fish and wildlife, recreational, power, navigation, and water quality control purposes from ground or surface water sources or from a combination of these [M.S. 105.405].

2. Control and supervise through permits and regulations the appropriation and use of surface waters and any activity which changes or will change the course, current, or cross-section of public water or wetlands including control over dams, reservoirs, control structures and waterway obstructions [M.S. 105.38, 105.415, 105.535].

3. Prepare mandatory Environmental Assessment Worksheet (EAWs) for any new or additional permanent impoundment of water creating a water surface of 160 or more acres and for construction of a Class II dam. Prepare mandatory Environmental Impact Statement (EIS) for construction of a Class I dam [Minnesota Rules Part 4410].

4. Administer the use, allocation, and control of lake and reservoir water levels [M.S. 105.43, Minnesota Rules Part 6115.0220, 6115.0221].

5. Control and approve maintenance and operation of any dam, reservoir, control structure, or waterway obstruction constructed before a Chapter 105 permit was required by law [M.S. 105.52, Minnesota Rules Part 6115.0380].

6. Amend existing Chapter 105 permits to incorporate changed reservoir and dam operation plans [M.S. 105.535, Minnesota Rules Part 6115.0380].

7. Order repair, alteration or removal of any dam, control structure, or waterway obstruction that has been determined upon investigation to be unsafe or in need of repairs [M.S. 105.52, Minnesota Rules 6115.0350].

8. Control through permits the drainage, diversion, obstruction, or use of any public waters (surface or ground water) for mining [M.S 105.64, Minnesota Rules 6115.0271, 6115.0280].

9. Develop protected flows to manage instream uses downstream from hydropower and other dams [M.S. 105.417, Minnesota Rules 6115.0630, 6115.0670].

10. Coordinate the review of permit applications with other units of government having jurisdiction in such matters [M.S. 105.535, Minnesota Rules 6115.0640].

C. The PCA is charged with the responsibility to prevent, control, or abate water pollution throughout the State of Minnesota and is given specific statutory powers and duties under Chapter 115, including the following:

1. Administer and enforce all laws relating to the pollution of waters of the state. Water pollution is the discharge of any pollutant into any waters of the state or the alteration made or induced by human activity of the chemical or physical integrity of waters of the state.

2. Investigate pollution and gather data necessary to enforce pollution laws.

3. Establish standards of quality for waters of the state.

4. Require waste treatment, including advanced waste treatment when justified, to control and prevent pollution.

5. Issue and enforce orders, permits, variances, standards, regulation, schedules of compliance, and stipulation agreements to prevent, control, or abate water pollution.

6. Develop and implement water pollution control planning processes, management plans, and programs authorized or required by the state and pursuant to the Federal Clean Water Act, as amended.

7. Provide financial and technical assistance to local units of government under the Minnesota Clean Water Partnership program in order to protect and improve surface and ground water by controlling pollution associated with land use and land management activities.

D. Minnesota Rules Chapter 7050 include general provisions applicable to the maintenance of water quality and aquatic habitats. These Rules require the PCA to control discharges of sewage, industrial waste, or other wastes so that water quality standards will be maintained.

III. SPECIFIC PROVISIONS

A. Each party will facilitate and monitor the implementation of this supplemental agreement.

B. The DNR agrees to:

1. Require the completion of Appendix C, Checklist by applicants for dam construction and operation permits administered by the DNR.

2. Request PCA review of permit applications for proposed dam construction and operation permits identified in Appendix C, Checklist.

3. Request PCA review of water quality management procedures in new or revised operation and maintenance plans for dams.

4. Promptly notify the PCA and other affected agencies of any emergency reservoir releases, drawdowns or flow stoppages.

5. Provide the PCA with a master listing of inventoried dams within the state. The inventory will be updated periodically and will include pertinent information, if available, on ownership or responsible party, location, years of operation, impoundment volume, head, control structures, and operation plans.

C. The PCA agrees to:

1. Review water quality management procedures in operation and maintenance plans for dams and provide written comments to DNR within 30 days of receipt. The PCA review will focus on maintenance of applicable instream standards for dissolved oxygen, temperature, pH, ammonia, turbidity, and toxic substances.

2. Provide technical assistance for water quality sections of EAW or EIS reports prepared by the DNR.

3. Continue to provide DNR Division of Waters and DNR Office of Planning with 30-day notification and opportunity to comment on the proposed issuance or re-issuance of National Pollutant Discharge Elimination System (NPDES) or State Disposal System (SDS) permits and provide upon request any additional information relative to the effluent discharge, including flow rates, volumes, frequency, duration, and location.

4. Consider and review DNR comments on proposed NPDES and SDS permits. Incorporate DNR concerns into final permits or provide DNR with a written response to comments.

D. Both parties agree to:

1. Cooperate, whenever practical, in data collection efforts designed to assess probable impacts from reservoir releases. Provide field personnel and/or equipment when requested, subject to availability constraints imposed by each agency's on-going program responsibilities. All requests and commitments of field personnel must receive appropriate approval within each agency.

2. Maintain a list of appropriate contact staff.

3. Share information and data bases as per Data Management Memorandum of Agreement.

4. Coordinate the review of proposed mining activities as per Memorandum of Agreement for Cooperative Involvement in the Regulation of Mining Industries.

APPENDIX C - CHECKLIST
NOTICE TO APPLICANTS FOR DNR PERMITS AFFECTING CONSTRUCTION AND MANAGEMENT OF DAMS AND RESERVOIRS IN MINNESOTA

The Department of Natural Resources (DNR) and the Pollution Control Agency (PCA) are working together to avoid duplication in state agency review of proposed activities affecting water resources of the state. This form was prepared by the DNR and the PCA to minimize your work in contacting state agencies for project approval.

Please complete this form by placing an "X" in the appropriate box or boxes. If your project or proposed activity does not involve any of the actions listed on this form, place an "X" in the box after item 5.

If your proposed project or activity will involve any of the actions listed for boxes 1 through 4, a copy of your DNR permit application will be forwarded to the PCA for their review. If a separate PCA permit or approval is required, you will be so notified by the PCA.

In addition, please be advised that projects which will involve drainage, excavation, fill or impoundment of wetlands or waters of the United States, even those wetlands outside of the jurisdiction of the DNR, may require an individual permit from the U.S. Army Corps of Engineers. Persons proposing such projects should contact the Regulatory Functions Branch, U.S. Army Corps of Engineers, 1421 U.S. Post Office and Custom House, St. Paul, Minnesota 55101 [telephone: (612) 220-0375] for further information.

Place an "X" in the box, if applicable.

1. The project as proposed will result in the controlled or uncontrolled release of impounded water directly to (or at any location that will directly impact) waters of the state that are specifically identified in the attached list. ☐

2. The project as proposed will result in the controlled or uncontrolled release of impounded water into any waters of the state and such release is known or expected to contain:
   - a. pH values less than 6.5 or greater than 8.5 standard units; ☐
   - b. known or suspected toxic substances in water or sediment; ☐
   - c. dissolved oxygen concentration less than 7.0 mg/l (trout streams), or ☐
     dissolved oxygen concentration less than 5.0 mg/l (other waters); ☐
   - d. significant amounts of floating solids, scums, or oil; ☐
   - e. floatable garbage, refuse, or other manmade litter; ☐
   - f. excessive suspended sediment or sludge deposits; ☐
   - g. highly turbid or colored water in excess of natural stream conditions; ☐
   - h. high concentrations of floating or suspended algae; ☐
   - i. high concentrations of organic material or nutrients (nitrogen and phosphorus compounds); or ☐
   - j. heat that would materially change the receiving stream temperature under prevailing flow conditions. ☐

3. The project as proposed will result in controlled or uncontrolled releases from a new or expanded hydropower facility. ☐

4. The project as proposed will result in controlled or uncontrolled releases from the bottom waters of a thermally stratified reservoir. ☐

5. The project as proposed will not involve any of the above. ☐

Applicant name (type or print) ______________________________

Applicant signature ______________________________

Applicant address ______________________________

Attachment to Appendix C. Specific Waters of Concern

This list of specific waters of concern includes:

1) Outstanding Resource Value Waters (ORVW) as defined in Minnesota Rules Chapter 7050;
2) waters suitable for domestic consumption as identified in Minnesota Rules Chapter 7050;
3) water quality limits streams having Total Maximum Daily Load (TMDL) restrictions pursuant to EPA Regulations 40 CFR Part 130; and
4) designated trout waters included in DNR Commissioner's Orders 2089 and 2230.

Please look up the county that your project is located in and then place an "X" next to the water body name if it appears on the list. Note that some counties have a line for "trout waters" or "trout streams." These are streams from the DNR Commissioner's Order 2089 and lakes from the DNR Commissioner's Order 2230 that have been identifed as supporting or capable of supporting trout. Because some counties have many trout streams or lakes, most of the trout waters have not been specifically named in this list. If your county includes a "trout waters" or "trout streams" line, please contact the nearest DNR Area Hydrologist or Fisheries Office to check whether your project will be affecting a trout water. If it does, place an "X" next to the "trout waters" or "trout streams" line on this list and write in the name of the stream or lake.

Region I

Becker:
__Dead Horse Creek (T138, R38, S3.4.7.8.9.18)
__Elbow Lake Creek (T142, R38, S6), also in Clearwater County
__Green Water Lake (T141, R38, S28.33.34)
__Hanson Lake (T139, R39)
__Long Lake, Little (Long) (T139, R38)
__Ottertail River (downstream from Height of Land Lake)
__Spring Creek Fen (T142, R42, S13)
__Straight Creek, Upper (T141, R38, S30.31; T141, R37, S24.25)
__Straight Lake Creek (T140, R38, S6; T140, R37, S1,2)
__Straight River (T139, R36, S1; T140, R36, S28.29.33.34,35.36), also in Hubbard County
__Sucker Creek (T138, R40, S18; T138, R41, S13)
__Toad River (T138, R38, S6.7.18.19.30; T139, R38, S30.31; T139, R39.25.36; T138, R39, S25.26)
__Twin Lake, East (T138, R41)

Beltrami:
__Battle River, S. Branch (T151, R30, S2.3.4,11)
__Benjamin Lake (T148, R30.31)
__Clearwater River (T148, R35, S5.6.8.17.20.29.31.32; T149, R35, S20.29.31.32)
__Hoover Creek (T152, R30, S13.24), also in Koochiching County
__Meadow Creek (T151, R30, S6; T151, R31, S1.2)
__Mississippi River
__Mud River (T150, R33, S21.28)
__O'Brien Creek (T149, R32, S2; T150, R32, S23.24,26.35)
__Pennington Bog (T146, R30)
__Spring Creek (T149, R30, S4.5.9.10)
__Spring Lake Creek (T148, R35, S34.35)

Cass
__Mississippi River
__Roosevelt Lake (T138,139, R26)
__trout waters

name: ____________________

Clay
__Barnesville WMA Fen (T137, R45, S1)
__B-B Ranch Fen (T141, R46, S13)
__Felton Creek (T141, R44, S7,8,17; T141, R45, S7,8,12,13,14,15,16,17,18,22; T141, R46, S8,9,12,13,14,15,16)
__Felton Fen (T142, R46, S36)
__Red River of the North
__Spring Prairie Fen (T140, R46, S11)

Clearwater
__Augonash Creek (T144, R38, S5; T145, R38, S27.28.31.32.33)
__Buckboard Creek (T144, R37, S19, 30.31; T144, R38, S11.12.13.24)
__Clearbrook Fen (T149, R37, S17)
__Elbow Lake Creek (T143, R38, S31.32), also in Becker County
__Iron Springs Bog (T144, R36)
__Itasca Wilderness Santuary (T143, R36)
__Lost River (T148, R38, S20.21.22.27.28)
__Mississippi River
__Mud Creek (T144, R37, S13.14.22.23.24)
__Nassett Creek (T148, R36, S28.29)
__Red Lake River
__Sucker Brook (Gould Creek) (T144, R36, S27.28.32.33)
__Napetua (Island) Lake (T144, R38)

Douglas
__Spruce Creek (T130, R38, S3.4.9.10), also in Otter Tail County

Hubbard
__Blacksmith Lake (T142, R35)
__Blue Lake (T141, R34)
__Crappie Lake (T143, R33)

Hubbard continued
__Kabekona Lake (T142,143, R32,33)
__LaSalle Lake, Lower (T145, R35)
__Newman Lake, (Putnam) (T145, R34)
__Robertson Lake, (Coon) (T143, R33)
__Mississippi River
__Straight River (T139, R35, S4,5,8, 9,10,11,12), also in Becker County
__trout streams

name: ______________________________

Kittson
__Lake Bronson
__Red River of the North
__Two Rivers, Mid. Br. (upstream from Hallock)
__Two Rivers, S. Br.

Lake of the Woods
__Lake of the Woods
__Rainy River (upstream from railroad bridge in Baudette)
__Tomato Creek (T161, R34, S3,9,10; T162, R34, S35)

Mahnomen
__Bad Boy Creek (T144, R39, S13,14,22,23,27, 28,34)
__Schermerhorn Creek (T144, R39, S6; T145, R39, S31; T145, R40, S25,26,36)
__Waubun Fen (T143, R42, S25)

Marshall
__Red River of the North
__Tamarack River (upstream from Stephen)

Norman
__Primula Meadow (Faith Fen) (T144, R43, S25)
__Red River of the North

Otter Tail
__Bass Lake (T135, R42)
__Brandborg Creek (T133, R38, S20,21,28,29,30)
__Finn Creek (T135, R37, S27,34)
__Hoimstad Creek (T136, T37, S7; T136, R39, S12,13,14)
__Long Branch Creek (T134, R42, S7)
__Long Lake Creek (T132, R41 S9)
__Ottertail River
__Rush Lake Creek (T135, R38, S23,26,27,28)
__Spruce Creek (T131, R38, S28,29,31,32,33,34) also in Douglas County
__Willow Creek (T133, R38, S2,11; T134, R38, S26,35)

Pennington
__Red Lake River

Polk
__Chicog WMA Fen (T148, R45, S20,29,33)
__Karlsonville WMA Fen (T149, R45, S18)
__Langby Creek (T147, R39, S33,34)
__Pankratz Fen (Svedarsky's Fen) (T149, R45, S17)
__Pembina Trail Reserve (T148, R45, S1,2; T149, R44, S18,19,30,31; T149, R45, S13,24,25,36)
__Red Lake River
__Red River of the North

Pope
__Mud Creek (T123, R38, S28,29)
__Ordway Fen (T123, R38, S30)

Red Lake
__Red Lake River

Roseau
__Bemis Hill Creek (T161, R37, S17,19,20, 29,30)

Wilkin
__Lawndale Creek (T135, R45, S5,6; T135, R46, S1,2)
__Ottertail River
__Red River of the North (downstream from Breckenridge)

Attachment to Appendix C. Specific Waters of Concern

This list of specific waters of concern includes:

1) Outstanding Resource Value Waters (ORVW) as defined in Minnesota Rules Chapter 7050;
2) waters suitable for domestic consumption as identified in Minnesota Rules Chapter 7050;
3) water quality limits streams having Total Maximum Daily Load (TMDL) restrictions pursuant to EPA Regulations 40 CFR Part 130; and
4) designated trout waters included in DNR Commissioner's Orders 2080 and 2230.

Please look up the county that your project is located in and then place an "X" next to the water body name if it appears on the list. Note that some counties have a line for "trout waters" or "trout streams." These are streams from the DNR Commissioner's Order 2080 and lakes from the DNR Commissioner's Order 2230 that have been identifed as supporting or capable of supporting trout. Because some counties have many trout streams or lakes, most of the trout waters have not been specifically named in this list. If your county includes a "trout waters" or "trout streams" line, please contact the nearest DNR Area Hydrologist or Fisheries Office to check whether your project will be affecting a trout water. If it does, place an "X" next to the "trout waters" or "trout streams" line on this list and write in the name of the stream or lake.

Region II

Aitkin
__Blue Lake (T46,47, R27)
__Libby Brook (T50, R23, S5,6; T50, R24, S1,2)
__Long Lake Creek (T46, R25, S10,15)
__Mississippi River
__Morrison Brook (T52, R26, S4,9,10,14,15), also in Itasca County
__Taylor Lake (T52, R25)
__Townline Lake (T50, R22,23)
__Two Rivers Springs (T51, R23, S19; T51, R24, S24,25,26)

Carlton
__Corona Lake (T48, R19)
__trout streams

name: ____________

Cass
__Mississippi River
__Roosevelt Lake (T138,139, R26)
__trout waters

name: ____________

Cook
__Bearskin Lake, East (T64, R1E,1W)
__Bearskin Lake, West (T64,65, R1W)
__Birch Lake (T65, R1W,2W)
__Boundary Waters Canoe Area Wilderness (waters within or bordering the BWCAW)
__Brule River (other than trout waters)
__Chester Lake (T64, R3E)
__Crab Lake (T65, R2W,3W)
__Devilfish Lake (T64, R3E)
__Esther Lake (T63,64, R3E)
__Flour Lake (T64, R1E,1W)
__Fowl Lake, North (T64,65, R3E)
__Fowl Lake, South (T64,65, R3E)
__Greenwood Lake (T64, R2E)
__Gunflint Lake (T65, R2W,3W,4W)
__Gunflint Lake, Little (T65, R2W)
__Horn Creek (T62, R4W)
__Hungry Jack Lake (T64,65, R1W)
__Jim (Jerry) Lake (T64, R1E)
__Kemo Lake (T63, R1W)
__Lone Creek (T66, R5W)
__Loon Lake (T65, R3W)
__Magnetic Lake (T65, R3W,4W)
__Mayhew Lake (T65, R2W)
__McFarland Lake (T64, R3E)
__Moss Lake (T65, R1W)
__Musquash Lake (T63, R1E)
__North Lake (T65, R2W)
__North Lake, Little (T65, R2W)
__Pigeon River (South of Fowl Lake to Pigeon Bay in Lake Superior)
__Superior, Lake
__Temperance River (other than trout waters)
__Trout Lake (T62, R2E)
__trout waters

name: ____________

Crow Wing
__Hay Lake, Lower (T137, R28,29)
__Kennedy Lake (T58, R23)
__Mississippi River
__Trout Lake, Big (T137,138, R27,28)
__trout waters

name: ____________

Itasca
__Bluewater Lake (T57, R25)
__Caribou Lake (T58, R26)
__Larson Lake (T61, R24)
__Mississippi River
__Morrison Brook (T53, R26, S7,8,18,19,29,30, 32,33), also in Aitkin County
__Pokegama Lake (T54,55, R25,26)
__Trout Lake (T55,56, R24)
__Trout Lake, Big (T57,58, R25)
__Trout Lake, Little (T57, R25)
__trout waters

name: ____________

Itasca continued
__Valley Creek (T62, R23, S1,2,3,4,10,11,12, 13,14,24), also in Koochiching County
__Wabana Lake (T57, R25)

Koochiching

__Dinner Creek (T153, R26, S4,9,10,12,13,14, 15,23,24; T154, R26, S7,18,19,29,30,32, 33; T154, R27, S1,12; T155, R26, S30,31; T155, R27, S25,35,36)
__Hay Creek (T153, R26, S4,8,9,17,20)
__Hoover Creek (T152, R29, S19,26,27,28,29, 30,35), also in Beltrami County
__Rainy River (downstream from Rainy Lake)
__Trout Brook (T66, R26, S19,30; T66, R27, S24,25)
__Valley River (T63, R22, S6,7,8,9,16,17,18, 19,20,21,28,29,30; T63, R23, S24,25,26, 35), also in Itasca County
__Voyageur's National Park (waters within or bordering the park)
__Boundary Waters Canoe Area Wilderness (waters within or bordering the BWCAW)
__Echo Lake (T59, R6W)
__Fall Lake (T63,64, R11,12)
__Island River (T61, R7,8)
__Kawishiwi River (upstream from Fall Lake)
__Superior, Lake
__Ojibway Lake (Upper Twin) (T63, R9,10)
__Snake River (T61, R9)
__trout waters

name: ______________________________

__Twin Lake, Upper (Bear) (T56,R8)

St. Louis

__Boundary Waters Canoe Area Wilderness (waters within or bordering the BWCAW)
__Burntside Lake (T63,64, R12,13,14)
__Colby Lake (T58, R14)
__Crane lake (T67,68, R16,17)
__Fall Lake (T63,64, R11,12)
__Indian Sioux River, Little (T64,65, R15)
__Johnson Lake (T67,68, R17,18)
__Superior, Lake
__Moose River (T68, R18,19)
__Moose River (T64,65,66, R14)
__Portage River (T65,66, R14)
__Purvis Lake—Ober Foundation (T61, R13)
__St. Mary's Lake (T57, R17, S9,16,17)
__Spring Lake (T68, R18)
__Stuart River (T65,66, R13)
__trout waters

name: ______________________________

__Voyageur's National Park (waters within or bordering the park)

Attachment to Appendix C. Specific Waters of Concern

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2) waters suitable for domestic consumption as identified in Minnesota Rules Chapter 7050;
3) water quality limits streams having Total Maximum Daily Load (TMDL) restrictions pursuant to EPA Regulations 40 CFR Part 130; and
4) designated trout waters included in DNR Commissioner's Orders 2089 and 2230.

Please look up the county that your project is located in and then place an "X" next to the water body name if it appears on the list. Note that some counties have a line for "trout waters" or "trout streams." These are streams from the DNR Commissioner's Order 2089 and lakes from the DNR Commissioner's Order 2230 that have been identifed as supporting or capable of supporting trout. Because some counties have many trout streams or lakes, most of the trout waters have not been specifically named in this list. If your county includes a "trout waters" or "trout streams" line, please contact the nearest DNR Area Hydrologist or Fisheries Office to check whether your project will be affecting a trout water. If it does, place an "X" next to the "trout waters" or "trout streams" line on this list and write in the name of the stream or lake.

Region III

Benton
__Bunker Hill Brook (T38, R30, S6; T38, R31, S1,2,10,11)
__Mississippi River
__Rock Creek, Little (T38, R31, S3,4,10,15, 21,22,28), also in Morrison County

Cass
__Mississippi River
__Roosevelt Lake (T138,139, R26)
__trout waters

name: ____________________

Chisago
__Beaver Creek (T35, R20, S7,8,17; T35, R21, S3,4,10,12,13,14,15; T36, R21, S33,34)
__Beaver Creek, S. Tributary (T35, R21, S15)
__Hay Creek (T35, R20, S7,8)
__Lawerence Creek (T33, R19, S2,3,10)
__Rock Creek (T37,38, R20,21)
__Rush Creek (T37, R20,21)
__St. Croix River
__Sunrise River, W. Branch (T34, R21,22)

Crow Wing
__Hay Lake, Lower (T137, R28,29)
__Kennedy Lake (T58, R23)
__Mississippi River
__Trout Lake, Big (T137,138, R27,28)
__trout waters

name: ____________________

Isanti
__Rum River
__Sunrise River, W. Branch (T34, R21,22)

Mille Lacs
__Rum River (Ogechie Lake spillway to the northernmost confluence with Lake Onamia)
__Rum River (Hwy-27 in Onamia to Madison and Rice Streets in Anoka)

Morrison
__Broken Bow Creek (T131, R29, S10; T131, R30, S13,24)
__Camp Ripley Brook (T132, R30, S13,24)
__Mississippi River
__Nelson Hay Creek (T130, R31, S1,2)
__Reimerick Brook (T133, R30, S21,28)
__Rock Creek, Little (T39, R30, S17,18,20,21, 22; T39, R31, S13,14,22,23,26,27,33,34), also in Benton County

Pine
__Black Lake (T45, R15)
__Black Lake Bog (T45, R15, S18,19,30; T45, R16, S13,24,25)
__Grindstone Lake (T42, R21)
__Hay Creek (T42,43,44, R15,16)
__Kettle River (upstream from Sandstone dam)
__Kettle River (downstream from Sandstone dam)
__Mission Creek (other than trout waters) (T39,40,41, R20,21)
__Rock Creek (T37,38, R20,21)
__St. Croix River
__Tamarack River, Lower (from confluence with Hay Creek to mouth)
__Tamarack River, Upper (Spruce River) (T42, R15,16)
__trout streams

name: ____________________

Sherburne
__Briggs Creek (T35, R29, S2,11,12,14,15,22)
__Mississippi River
__Rum River
__Snake River (T33, R28, S1; T34, R28, S2,11, 14,15,23,26,35,36; T35, R28, S20,28,29, 33,34,35)

Stearns
__Mississippi River
__Sauk River (downstream from Cold Spring)
__trout streams

name: ______________________________
__Watab Lake, Big (T124, R30)
__Willow Creek (T121, R29, S10,11,14)
Todd
__Dual Creek (T129, R32, S20)
__Larson Creek (T128, R32, S8)
__Round Prairie Creek (T127, R33, S4; T128, R33, S20,29,32,33)
__Sauk Creek, Little (T127, R34, S1,2; T128, R34, S35,36)
__Unnamed Brook (T133, R32, S10,15,16)
Wadena
__Cat Creek (T137, R35, S4,9,10,11,12,13)
__Fawn Creek (T134, R 33, S22,27,33,34)
__Hay Creek (T134, R33, S7,8,9,10,11,17,18)
__Union Creek (T134, R35, S18,19,30,32)
Wright
__Mississippi River

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Please look up the county that your project is located in and then place an "X" next to the water body name if it appears on the list.

Region IV

Big Stone
__Minnesota River (Big Stone outlet to Lac Qui Parle dam)

Blue Earth
__Blue Earth River (upstream from Rapidan)
__Unnamed Creek (T108, R28, S1,2)
__Unnamed Creek (T108, R28, S5; T109, R28, S32)
__Unnamed Creek (T106, R28, S6; T109, R29, S25,36)

Brown
__Hindeman Creek (T111, R32, S19,20; T111, R33, S24)
__John's Creek (T110, R32, S1; T111, R31, S31 T111, R32, S36)

Chippewa
__Cottonwood Creek (T119, R41, S4), also in Swift County
__Minnesota River

Cottonwood
__Des Moines River (downstream from Windom)
__Scheldorf Creek (T106, R36, S19,30,31; T106; R37, S13,24,25)

Faribault
__Blue Earth River
__Center Creek

Jackson
__Des Moines River
__Heron Lake Fen (T103, R36, S29)
__Prairie Bush Clover (T103, R35, S17)
__Thompson Fen (T103, R35, S7)

Lac Qui Parle
__Minnesota River (Big Stone outlet to Lac Qui Parle dam)
__Minnesota River (downstream from Lac Qui Parle dam)

LeSueur
__Fish Hatchery Fen (T110, R26, S14)
__Paul's Creek (T110, R26, S14,15)
__St. Peter Fen (T110, R26, S11)
__Unnamed Creek (T110, R26, S10,11)

Lyon
__Redwood River (T110, R42, S5,8,17, T111, R42, S32)

Martin
__Amber Lake (T102, R30)
__Bardwell Lake (T102, R30)
__Budd Lake (T102, R30)
__Center Creek (downstream from Fairmont)
__George Lake (T102, R30)
__Hall Lake (T102, R30)
__Minnesota River (Big Stone outlet to Lac Qui Parle dam)
__Mud Lake (T102, R30)
__Silver Lake, North (T101, R30)
__Sisseton Lake (T102, R30)
__Truman Fen (T104, R30, S7)
__Wilmert Lake (T101, R30)

Meeker
__Mud Lake, Little (T121, R30)
__North Fork Crow River (Lake Koronis outlet to the Meeker/Wright County line)
__Sucker Creek (T118, R30, S4,5,6,7)
__Willow Creek (T121, R29, S23), also in Stearns County

Nicollet
__Fort Ridgely Fen (T111, R32, S8)
__LeSueur Fen (T111, R26, S16)
__Robinson Brook (T110, R30, S3,4,5,8)

Redwood
__Minnesota River (upstream from County State Aid Highway-11)
__Ramsey Creek (T112, R36, S1; T113, R36, S35,36)

Renville
__Minnesota River (upstream from County State Aid Highway-5)

Swift
__Cottonwood Creek (T120, R41, S21,28,33), also in Chippewa County)
__Minnesota River

Yellow Medicine
__Canby Creek (T114, R45, S17,18; T114, R46, S13,14,21,22 23)
__Minnesota River
__Sioux Nation Fen (T114, R46, S17)

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Region V

Fillmore
__trout streams

name: ____________________

Goodhue
__Bullard Creek (T112, R14, S1.2.3.10; T113, R14, S36)
__Cannon River
__Hay Creek (T111, R15, S4; T112, R14, S19; T112, R15, S12.13.23.24.26.27.33.34)
__Mazeppa Creek (T110, R15, S24,25), also in Wabasha County
__Perched Valley WMA Fen (T112, R13, S8)
__Spring Creek (T112, R15, S6.7.18)
__Trout Brrok (T112, R17, S1), also in Dakota County)
__Trout Brook, Tributary to Hay Creek (T112, R14, S2; T113, R14, S35.36)

Houston
__trout streams

name: ____________________
__Waterloo Creek (T101, R6,7)

Olmsted
__Dry Run Creek (T108, R14, S4), also in Wabasha County
__Kinney Creek (T105, R13, S1,12,13; T106, R12, S31; T106, R13, S36)
__Logan Creek (T107, R11, S3)
__Mill Creek (T106, R11, S31, T105, R12, S14, 23.25.26.36)
__Rock Dell Fen (T105, R15, S16)
__Whitewater River, Middle Branch (T106, R11, S2.3.10; T107, R11, S24.25.26.35), also in Winona County)
__Whitewater River, N. Branch (T107, R11, S1.2.3), also in Winona and Wabasha Counties

Rice
__Cannon River (downstream from Faribault)
__Cannon River Fen (T111, R20, S34)
__Spring Brook (T111, R20, S2.3)

Wabasha
__Mazeppa Creek (T110, R14, S10.20.30.32), also in Goodhue County
__trout streams

name: ____________________

Winona
__Kennedy Fen (T106, R7, S15)
__trout streams

name ____________________

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3) water quality limits streams having Total Maximum Daily Load (TMDL) restrictions pursuant to EPA Regulations 40 CFR Part 130; and
4) designated trout streams included in DNR Commissioner's Orders 200%

Please look up the county that your project is located in and then place an "X" next to the water body name if it appears on the list.

Region VI

Anoka
__Beet Lake (T33, R22)
__Centerville Lake (T31, R22)
__Mississippi River (upstream from St. Anthony)
__Otter Lake (T30,31, R22)
__Rice Creek (T30,31,32, R22,23,24)
__Rum River (upstream from Madison and Rice Streets in Anoka)
__Sunrise River, W. Branch (T34, R21,22)

Carver
__Assumption Creek (T115, T23, S2; T116, R23, S34,35)
__Courthouse Lake (T115, R23)
__Minnesota River (downstream from confluence with Carver Creek)

Dakota
__Blackdog Preserve (T27, R24, S27,34)
__Cannon River
__Fort Snelling State Park Fen (T27, R23, S4)
__Kennaley's Creek (T27, R23, S18)
__Minnesota Valley Fen (T27, R24, S27,34)
__Minnesota River
__Nicols Meadow Fen (T27, R23, S18)
__Trout Brook (T113, R17, S26,27,35,36), also in Goodhue County
__Unnamed Creek #1 (T27, R23, S18; T27, R24, S13)
__Unnamed Creek #3 (T27, R24, S24)
__Unnamed Creek #4 (T27, R24, S24)
__Unnamed Creek #7 (T27, R24, S26)

Hennepin
__Mississippi River (upstream from St. Anthony)
__Minnesota River
__Wolsfeld Woods (T118, R23)

Ramsey
__Charley Lake (T30, R23)
__Deep Lake (T30, R22)
__Otter Lake (T30,31, R22)
__Pleasant Lake (T30, R22,23)
__Rice Creek (T30,31,32, R22,23,24)
__Sucker Lake (T30, R22)
__Vadnais Lake (T30, R22)
__Wilkinson Lake (T30, R22)

Scott
__Eagle Creek, Main Branch (T115, R21, S7,18; T115, R22, S13)
__Eagle Creek, E. Branch (T115, R21, S18)
__Minnesota River (downstream from confluence from Carver Creek)
__Savage Fen (T115, R21, S17)
__Shakopee Mill Pond (T115, R22, S5,6; T116, R22, S32)

Washington
1234567890112345678921234567893123456789412345
__Brown's Creek (T30, R20, S20,21)
__Old Mill Stream (T31, R19, S6; T31, R20, S1; T32, R20, S36)
__St. Croix River
__Unnamed Stream (T31, R19, S19)
__Valley Creek (T28, R20, S9,10,14,15,16,17)

ADDITIONS TO THE RECORD

43965 450th Street
Sauk Centre, Minnesota 56378
April 11, 1989

Arlan Stangeland
720 Mall Germain
Room 103
St. Cloud, Minnesota 56301

Dear Congressman Stangeland:

I am enclosing a statement that I would like to have entered in the record of the Wetlands and Agricultural Drainage hearing on April 14, 1989.

I ask that this be entered only as written testimony and not as an oral presentation.

Thank you.

Sincerely yours,

David Bailey

APR 18 1989

I would like the following testimony entered into the record for the April 14 hearing on wetlands and agricultural drainage.

The Clean Water Act requires COE permits for certain drainage activities. I have always associated the Clean Water Act with pollution control activities and not wetlands preservation. Why continue to use this backdoor approach for saving wetlands when the real issue is not pollution control at all? The COE defies logic and common sense when they suddenly, in all their wisdom, announce that soil, when lifted from the surface of the earth and dropped to earth again, is now a pollutant. That being the case, why aren't government agencies such as the U. S. Fish & Wildlife Service and the Minnesota DNR required to have permits for their work in wetlands? Is their wetland soil less of a pollutant than mine? Why are these laws not enforced in other regions as they are in Minnesota? Apparently their soil is also non-polluting. I think the COE should forget this assinine approach to wetlands protection and let the facts speak for themselves in the future. The facts show that there is less nutrient runoff from well-drained soils, and, therefore, is less polluting. This is substantiated by a study done by Professor Henry Quade Ph. D. of Mankato State University in which he proved that the phosphorous runoff rate was more than 50 times greater from unimproved drainageways versus improved drainage systems. It has also been proven by University of Minnesota, and other studies as well, that flooding is decreased in a well designed drainage system.

With the farm economy in such a poor condition today, it is more necessary than ever to maximize efficiency. On many heavy soil farms in Minnesota, the first step is an efficient drainage system, this leads to other efficiencies such as better use of fertilizer and herbicides, erosion control, a longer growing season, better crop rotation, and of course, higher yields. With the American consumer demanding cheap food and U S D A programs designed to meet that demand, higher efficiency is our last hope. Higher efficiency is the only thing that will keep us viable in the world markets. We need this efficiency to help remove our trade deficits.

This issue simply boils down to whether or not we want more waterfowl raised at farmers expense. Again, the facts clearly show that there is less pollutant runoff, less soil erosion, and less flooding from drained farmland. I think that there are much more efficient ways to increase waterfowl production than to require farmers to save one acre wet spots in the middle of their fields. From personal experience I know that these areas produce very few ducks.

In closing, I ask that the members of this panel forget the absurd idea that we must protect wetlands by calling drainage a pollution causing activity. I ask that you consider the economic impact on farmers as well as our country before allowing more restrictions on farm drainage.

Thank you.

David Bailey
43965 450th Street
Sauk Centre, Minnesota 56378

April 13, 1989

Arlan Stangeland
U.S. Representative
District 7
720 Mall Germain
St. Cloud, MN 56301

RE: Clean Water Act

Dear Representative Stangeland:

We would like this letter and accompanying documents submitted as written testimony for your hearing held on April 14 on the above matter.

Lac qui Parle County Commissioners have expended a tremendous amount of time and effort concerning the repair of County Ditch #17. We believe that this repair to County Ditch #17 is governed by Minnesota Statute 106 Drainage Law.

Landowners affected filed a petition in 1984 for the repair of County Ditch #17 with the Lac qui Parle County Board which ditch was originally constructed in 1907 and 1908 . The Department of Natural Resources is the owner of lands affected and benefited by this ditch. During the process of hearing the petition a redetermination of benefits was filed with the County Auditor. The ASCS granted certificates to the landowners for the ditch clean out. After lengthy negotiations the D.N.R. and the County executed an Agreement concerning the clean-out repair of this ditch in July, 1986.

In September 1986 we received communications from the Department of the Army that it appeared a permit was necessary for the clean-out work. The application for after-the-fact permit with attached D.N.R. agreement and waiver was submitted to the U.S. Army Corps of Engineers. The U.S. Army Corps of Engineers filed a Public Notice allowing interested parties to submit written facts, etc., until January 29, 1988. Its approval of the application for permit was suspended pending further investigations and actions of the E.P.A. This apparently was based on responses filed by individuals and organizations which had no actual in person knowledge or information.

Lac qui Parle County has attempted to comply with state and federal regulations. Every time we have met and settled the issues with one agency we get bombarded from another agency requiring new forms to be completed, and new rules and regulations to be complied with. These agencies did not inform us of their intent or provide evidence of necessity for them to regulate the project.

Lac qui Parle County objects to the U.S.EPA's misuse of the Clean Water Act This Clean Water Act should be used as an anti-pollutant statute and not as an anti-ditching statute. EPA's is using it for enforcement and not using it as enacted. This misuse of the Clean Water Act and enforcement is an unconstitutional taking of landowners rights.

I am enclosing a copy of the Findings of Violation and Compliance Order. By this document you can see that the agencies continually refer to this clean out as an improvement. Clean outs are not improvements. They are repairs and must be governed by Minnesota Statute 106.

Requiring landowners and Lac qui Parle County to follow all of these state and federal agencies rules is overbearing, unrealistic, and unreasonable due to the fact that this was a clean-out project and never intended to be a ditch improvement.

We are appealing to your sense of fair play to the constituents of this area. As Commissioners we have diligently tried to complete this clean out project and have never intended to bypass any state and federal regulations.

Please utilitze your power in establishing guidelines for the EPA's Administration of the Clean Water Act as the bill intended.

Very truly yours,

Albert Hoffman
Chairman
Lac qui Parle County Board of Commissioners
Albert C Hoffman Chairman

STATE OF MINNESOTA | DISTRICT COURT
COUNTY OF LAC QUI PARLE | EIGHTH JUDICIAL DISTRICT

In the Matter of the Redetermination
of Benefits of Lac Qui Parle
County Ditch No. 17

AGREEMENT

This agreement is made and entered into by the County of Lac Qui Parle, Minnesota, hereinafter "County," acting through its Board of Commissioners, and the Department of Natural Resources of the State of Minnesota, hereinafter "State," acting through its Commissioner.

WHEREAS, Lac Qui Parle County Ditch No. 17 was constructed by the County in Arena and Garfield Townships in 1907 and 1908;

WHEREAS, the State owns lands in Sections 28, 33, and 34 of Township 118N, Range 45W (Arena Township);

WHEREAS, the State-owned land includes numerous wetland areas, five of which have been designated "public waters" pursuant to Minn. Stat. § 105.391 and are numbered 37-153P, 37-154P, 37-159P, 37-160W and 37-260P;

WHEREAS, the wetlands are included within Haydenville Wildlife Management Area, which entire area was acquired and is managed by the State for the primary purpose of providing wildlife habitat;

WHEREAS, petitions for redetermination of benefits of the said ditch have been filed with the County Auditor and duly presented to the County Board of Commissioners;

WHEREAS, the County desires to clean and repair said ditches and said cleaning and repair as now planned will substantially drain and destroy said public waterbasins 37-154P and 37-159P;

WHEREAS, Minn. Stat. § 105.42 prohibits drainage of public waters without a permit and Minn. Stat. § 105.391, subd. 3, places stringent limitations on the circumstances under which such permits may be issued;

WHEREAS, the placement of control structures at the outlets of wetlands 37-154P and 37-159P would control the drainage of these two wetlands, and allow the ditch project to proceed;

WHEREAS, both parties desire to reach an agreement which resolves the concerns referred to above;

NOW THEREFORE,

I. The State agrees:

A. To petition the County for permission to construct two water control structures in Lac Qui Parle County Ditch No. 17, pursuant to the provisions of Minn. Stat. § 105.81.

B. To design, construct and maintain two water control structures in the ditch, as follows:

1. Wetland 37-154P (North Basin)

   a. The control structure will be placed in ditch on State owned land near the outlet of basin 37-154P at approximately station 254 on the Repair D, County Ditch 17 plans dated May 2, 1985.

   b. The control structure will be of the weir type with removable stop logs. The structure will be designed to a maximum crest elevation of 1077.20 feet with sill elevation of 1074.2 feet NGVD 1929.

The structure will be designed to discharge flows at or above the capacity of the ditch with minimal stage increase.

2. **Wetland 37-159P (South Basin)**

   a. **The control structure will be placed in ditch on State-owned land near the outlet of basin 37-159P at approximately station 225 on the Repair D, County Ditch 17 plans dated May 2, 1985.**

   b. **The control structure will be of the weir type with removable stop logs. The structure will be designed to a maximum crest elevation of 1075.90 feet with a sill elevation of 1073.6 feet, NGVD 1929. The structure will be designed to discharge flows at or above the capacity of the ditch with minimal stage increase.**

C. That a permit will not be required for the proposed repair of Lac Qui Parle County Ditch No. 17 provided water control structures which prevent drainage of the public waters by the ditch system are built.

II. The County agrees:

A. To approve the State's petition for the construction of water control structures in the ditch as described in Part I above.

B. To clean and repair the ditch at originally constructed location and depths.

C. That the water control structures will be in place prior to initiation of ditch cleanout, unless DNR agrees in writing to waive this provision.

D. That it may accomplish future ditch repairs on State owned lands which now or may in the future comprise the Haydenville Wildlife Management Area after notice to and consultation with the area wildlife manager, provided that no work may be done which would remove or lower the elevations of the two water control structures referred to above. It is understood that the obligation created by this paragraph shall become void in the event the entire Haydenville Wildlife Management Area is sold or transferred by the State so that it is no longer managed for the purpose of providing wildlife habitat.

E. That the State may manipulate the crest elevation of the control structure at the outlet of Wetland 37-154P at elevations from 1074.2 feet to 1076.70 feet, NGVD 1929, at the State's discretion for the purpose of maintaining or improving waterfowl habitat.

F. That the State may manipulate the crest elevation of the control structure at the outlet of Wetland 37-154P at elevations above 1076.70 feet up to and including 1077.20 feet, NGVD 1929, for the purpose of maintaining and improving waterfowl habitat with the approval of the County. County approval will be granted so long as agricultural production on adjacent farmlands being tilled for row crops will not be decreased as a result of flooding caused by the proposed crest height setting, or if flowage easements are obtained.

G. That the State may maintain the crest elevation of the control structure at the outlet of wetland 37-159P at elevation 1073.6 to 1075.40 feet, NGVD 1929.—

H. That the State may manipulate the crest elevation of the control structure at the outlet of wetland 37-159P at elevations above 1075.40 feet up to 1075.90 feet, NGVD 1929, for the purpose of maintaining and improving waterfowl habitat with the approval of the County. County approval will be granted so long as agricultural production on adjacent farmlands being tilled for row crops will not be decreased as a result of flooding caused by the proposed crest height setting, or if flowage easements are obtained.

I. That ditch repair work on State lands will be done in a manner that will minimize the impact upon such lands. Specifically, the County agrees that destruction of woody cover will be kept to a minimum, and that lands disturbed during repairs will be returned to a vegetative cover.

J. Spoil resulting from cleanout within basins 37-154P and 37-159P must be removed from basin or deposited in a non-linear manner. Desired deposition of spoil will result in a series of islands approximately 50' x 50' on alternate sides of ditch channel approximately 50' to 100' apart.

III. Assessments.

A. State lands in Sections 28, 33, and 34 of T. 118 N., R. 45 W (Arena Township) were assessed benefits in the amount of $11,318.00. In consideration of the present use of the land and the State's construction of water control structures, benefits assessed will be 0 (zero).

B. State lands purchased from Delores Daliman located in the North Half of the Southwest Quarter of Section 33, T. 118 N., R. 45 W (Arena Township) were assessed benefits in the amount of $10,575.00. In consideration of the present use of the land and the State's construction of water control structures, benefits assessed will be $2,625.00.

IV. Each party agrees that it will be responsible for its own acts and the results thereof and shall not be responsible for the acts of the other party and the results thereof. Each party therefore agrees that it will assume all risk and liability to itself, its agents or employees for any injury to persons or property resulting in any manner from the conduct of its own operations, and operations of its agents or employees under this Agreement, and for any loss, cost, damage, or expense resulting at any time from failure to exercise proper precautions, of or by itself or its own agents or its own employees. The State's liability shall be governed by the provisions of the Minnesota Tort Claims Act, Minn. Stat. § 3.736, and other applicable law.

COUNTY OF LAC QUI PARLE

County Auditor

7-17-86
Date

Chairman,
Board of Commissioners

7-17-86
Date

JOHN M. TOLLEFSON
Lac Qui Parle County Attorney
P. O. Box 269, 727
Dawson, MN 56232

July 15, 198
Date

STATE OF MINNESOTA

By RH
Title COMMISSIONER

30 July 86
Date

HUBERT H. HUMPHREY, III
Attorney General

By
TIBOR M. GALLO
Special Assistant
Attorney General

Attorneys for Department of
Natural Resources
2nd Floor Space Center
444 Lafayette Road
St. Paul, MN 55101

July 15, 1986
Date

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

IN THE MATTER OF)
)
LAC QUI PARLE) DOCKET NO. V-W-AO-89 - 27
Board of Commissioners)
and)
TED CHAMBERLIN ENGINEERING CO.)
Madison, Minnesota)
)
) FINDINGS OF
RESPONDENTS.) VIOLATION AND
) COMPLIANCE ORDER
PROCEEDINGS UNDER SECTION 309(a))
OF THE CLEAN WATER ACT, 33 U.S.C.)
§1319)

The following **FINDINGS** are made and **ORDER** issued pursuant to the authority vested in the Administrator of the United States Environmental Protection Agency (U.S. EPA) by the Clean Water Act (CWA), 33 U.S.C. §1251, et seq., which was delegated to the Regional Administrator and duly redelegated to the undersigned Director, Water Division, Region V.

FINDINGS

1. The Respondents in these Findings and Order are Lac Qui Parle County Board of Commissioners and Ted Chamberlin Engineering Company, Madison, Minnesota.

2. The Respondents are persons as defined at Section 502 of the CWA, 33 U.S.C. § 1362.

3. Section 404 of the CWA, 33 U.S.C. §1344, authorizes the Secretary of the Army, acting through the Chief of Engineers, to issue permits for the discharge of dredged or fill material into navigable waters.

4. Section 301 of the CWA, 33 U.S.C. §1311, provides that, except as in compliance with, inter alia, a permit issued pursuant to Section 404 of the

CWA, 33 U.S.C. §1344, the discharge of any pollutant into navigable waters by any person shall be unlawful.

5. Section 404(f)(2) of the CWA provides:

> [a]ny discharge of dredged or fill material into the navigable waters incidental to any activity having as its purpose bringing an area of the navigable waters into a use to which it was not previously subject, where the flow or circulation of navigable waters may be impaired or the reach of such waters be reduced, shall be required to have a permit under this section.

6. Prior to March 9, 1987, and at times more fully known to the Respondents, the Respondents caused or allowed fill material to be discharged into waters of the United States (wetlands) in Section 3, 4, 5, and 12, Township 117N, Range 45W, and Sections 28 and 33, Township 118N, Range 45W, Lac Qui Parle County, Minnesota, on property controlled by Respondent.

7. On September 8, 1986, the United States Army Corps of Engineers, St. Paul District (Corps), informed Respondents that a Section 404 permit would be necessary for the reconstruction of Drainage Ditch No. 17 and its lateral ditches.

8. On March 6, 1987, the Minnesota Department of Natural Resources informed the Corps that Lac Qui Parle County had performed unauthorized work on Drainage Ditch No. 17. This was confirmed by a site visit by the Corps on March 25, 1987.

9. On September 21, 1987, the Corps issued a notice of violation to Lac Qui Parle County concerning the unauthorized fill of wetlands identified in Paragraph Six (6), above.

10. The Respondent Lac Qui Parle County applied for a Section 404 after-the-fact permit on November 4, 1987, and the Corps issued a Public Notice dated December 30, 1987. No permit was issued to the Respondents for the unauthorized work.

11. On April 1, 1988, the Corps suspended processing of the Respondents' application pending enforcement action.

12. Pursuant to Section 301 of the CWA, 33 U.S.C. §1311, the unpermitted discharges of fill material into the wetlands identified in Paragraph Six (6), above, are unlawful.

13. Respondents' discharge of fill material into the wetlands was incidental to activity having as its purpose bringing the wetlands to use as agricultural lands.

14. The wetlands identified in Paragraph Six (6), above, are "waters of the United States" as defined at 40 C.F.R. Section 232.2 (q) and are "navigable waters" as defined at Section 502(7) of the CWA, 33 U.S.C. §1362(7).

15. The unauthorized fill materials, which include topsoil and silt, are "pollutants" as defined by Section 502(6) of the CWA, 33 U.S.C. §1362(6).

16. The Respondents' discharges of fill material are "discharges of a pollutant" as defined by Section 502(12) of the CWA, 33 U.S.C. §1362(12).

17. At the time of the acts alleged above, and as of the date of issuance of this Order, the Respondents controlled the property or portions of the property described in Paragraph Six (6), above.

18. At the time of the acts alleged above, and as of the date of issuance of this Order, Respondents held no permit issued pursuant to Section 404 of the CWA authorizing the discharge of dredged or fill material into the wetlands identified in Paragraph Six (6), above.

19. Respondents' unpermitted discharges of fill material into the wetlands identified in Paragraph Six (6), above, constitute violations of Section 301 of the CWA, 33 U.S.C.§1311.

20. Each day the material remains in the waters of the United States without the required permit issued pursuant to Section 404 of the CWA, 33 U.S.C. §1344, constitutes an additional day of violation of Section 301 of the CWA, 33 U.S.C. §1311.

ORDER

BASED UPON THE FOREGOING FINDINGS, and pursuant to the authority vested in the Administrator, U.S. EPA, under Section 309(a)(3) of the CWA and by him delegated to the Regional Administrator, and duly redelegated to the undersigned, **IT IS HEREBY ORDERED:**

1. That the Respondents immediately cease further discharges of fill material into waters identified in Paragraph Six (6) of the Findings, except in compliance with a permit issued pursuant to Section 404 of the CWA, 33 U.S.C. §1344.

2. That within fifteen days of the receipt of this Order, the Respondents shall submit to U.S. EPA written certification of intent to comply with this Order.

3. That within thirty days of receipt of this Order, the Respondents shall submit to U.S. EPA a plan to restore the wetlands identified in Paragraph Six (6) of the Findings to their original condition and contours.

4. That within thirty days of approval by U.S. EPA of all or any portion of the plan identified in Paragraph Three (3), above, Respondents shall commence restoration activities to restore the indicated wetlands in accordance with the approved plan.

5. That within sixty days of receipt of U.S. EPA's approval of the restoration plan, the Respondents shall provide written certification that Respondents have restored the wetlands as nearly as possible to their original condition in accordance with the approved plan.

6. Submittals provided under Paragraphs Two (2), Three (3) and Five (5) of this Order shall be certified and submitted by the Respondents under authorized signature to the Director, Water Division, Region V, U.S. EPA, 230 South Dearborn Street, Chicago, Illinois 60604, Attention: Planning and Standards Section, 5WQS-TUB-8.

Compliance with the terms of this Order in no way affects Respondents' obligation to comply with the CWA or any other Federal, State, or local law or regulation. Violation of the terms of this Order may result in the U.S. EPA taking further enforcement action under Section 309 of the CWA, such as a civil action for appropriate relief, including civil penalties of up to twenty-five thousand dollars ($25,000) per day per violation.

In addition to the enforcement actions for violation of this Order outlined above, the CWA includes provisions for civil sanctions, criminal sanctions and administrative penalties for violation of the Clean Water Act. U.S. EPA may assess administrative penalties of ten thousand dollars ($10,000) per day of violation, up to a maximum of one hundred twenty-five thousand dollars ($125,000), or seek civil penalties of $25,000 per day of violation and civil injunctive relief for violations of the CWA. Furthermore, U.S. EPA may seek criminal sanctions, including fines and imprisonment, for negligent or knowing violations of the CWA.

Signed and dated March 24, 1989

Douglas Ehorn

for Charles H. Sutfin
Director, Water Division
U.S. EPA, Region V

THE STATUS OF OUR NATION'S WETLANDS RESOURCES AND LAWS RELATED THERETO

TUESDAY, APRIL 18, 1989

House of Representatives,
Subcommittee on Water Resources,
Committee on Public Works and Transportation,
Washington, DC.

The subcommittee met, pursuant to call, at 11:00 a.m., in room 2253, Rayburn House Office Building, Hon. Henry J. Nowak (chairman of the subcommittee) presiding.

Mr. Nowak. The subcommittee will come to order.

The Subcommittee on Water Resources meets today to continue our series of hearings on the status of our nation's wetlands resources and laws related thereto.

At our hearing last week, we received testimony from Environmental Protection Agency Administrator, William K. Reilly; U.S. Army Principal Deputy Assistant Secretary of the Army for Civil Works, John S. Doyle, Jr.; and representatives of the National Wetlands Policy Forum of the Conservation Foundation.

At that hearing we learned about the current programs and activities of EPA and the U.S. Army Corps of Engineers related to wetlands. We also learned that despite current programs and activities, wetlands are being drained, filled, polluted, and eroded at a rate of 300,000 to 500,000 acres per year.

The National Wetlands Policy Forum of the Conservation Foundation has recommended an interim goal of no overall net loss of remaining wetlands and a long-term goal of increasing the quantity and quality of the nation's wetlands.

The U.S. Environmental Protection Agency recently announced that it had adopted a goal of no overall net loss of wetlands, and where feasible, of increasing the quality and quantity of wetlands.

In addition, the President has indicated a commitment to the preservation of the nation's remaining wetlands and a need for a coordinated federal wetlands policy.

At today's hearing we will continue to receive testimony concerning the wetlands programs and activities of the Federal Government.

We will receive testimony from the U.S. Fish and Wildlife Service concerning its broad reaching programs for preserving and protecting wetlands related to wildlife habitat. We will also receive testimony from the National Oceanic and Atmospheric Administration and the valuable wetlands related research activities of that agency.

Finally, we will receive testimony from the Soil Conservation Service concerning its wetlands preservation activities such as the Conservation Reserve Program and Swampbuster.

Before we begin with our first witness, I yield to the distinguished ranking Republican Member of the subcommittee. Arlan Stangeland from Minnesota, whatever opening remarks he chooses to make.

Mr. STANGELAND. I would ask unanimous consent that a statement by Congressman Hammerschmidt be made a part of the record.

[The statement of Mr. Hammerschmidt follows:]

STATEMENT OF HON. JOHN PAUL HAMMERSCHMIDT

THANK YOU, MR. CHAIRMAN. FOR THE THIRD TIME IN A WEEK, THE WATER RESOURCES SUBCOMMITTEE WILL BE TAKING TESTIMONY ON THE IMPORTANT SUBJECT OF WETLANDS PROTECTION. LAST WEDNESDAY, WE HEARD FROM THE ADMINISTRATOR OF EPA, THE DEPUTY ASSISTANT SECRETARY OF THE ARMY FOR CIVIL WORKS, AND REPRESENTATIVES OF THE WETLANDS POLICY FORUM. FRIDAY, REPRESENTATIVES OF THE SUBCOMMITTEE TRAVELED TO MINNESOTA TO HEAR FROM FEDERAL AND STATE AGENCIES, FARM INTERESTS AND PRIVATE CITIZENS ON A NUMBER OF WETLANDS ISSUES AFFECTING AGRICULTURAL ACTIVITIES.

DURING OUR TWO HEARINGS THUS FAR, WE HAVE RECEIVED VALUABLE TESTIMONY ON THE IMPORTANCE OF WETLANDS AND STEPS THAT ARE BEING, OR NEED TO BE, TAKEN TO PROTECT THIS RESOURCE. TODAY WE WILL HEAR FROM REPRESENTATIVES OF THE DEPARTMENT OF THE INTERIOR'S FISH AND WILDLIFE SERVICE, THE DEPARTMENT OF AGRICULTURE'S SOIL CONSERVATION SERVICE, AND THE DEPARTMENT OF COMMERCE'S NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION ON THEIR WETLANDS PROTECTION ACTIVITIES. I WANT TO WELCOME OUR DISTINGUISHED GUESTS FROM THESE IMPORTANT FEDERAL AGENCIES WHICH HAVE VARIOUS WETLANDS PROTECTION PROGRAMS. IT IS ONLY BY UNDERSTANDING THE ENTIRE RANGE OF FEDERAL PROTECTION PROGRAMS THAT WE CAN ADEQUATELY ASSESS THE NEED FOR FURTHER ACTION OR FASHION ANY NEW WETLANDS INITIATIVES.

LET ME COMMEND YOU, MR. CHAIRMAN, AS WELL AS THE DISTINGUISHED RANKING REPUBLICAN MEMBER OF THE SUBCOMMITTEE (MR. STANGELAND) FOR YOUR HARD WORK IN SETTING UP THIS SERIES OF HEARINGS AND YOUR WILLINGNESS TO TAKE A CLOSE LOOK AT A VERY COMPLICATED AND CONTROVERSIAL ISSUE. I LOOK FORWARD TO THE TESTIMONY WE WILL RECEIVE TODAY AND AT OUR SUBSEQUENT HEARINGS.

STATEMENT OF CONGRESSMAN BILL EMERSON ON WETLANDS BEFORE THE HOUSE PUBLIC WORKS AND TRANSPORATION SUBCOMMITTEE ON WATER RESOURCES

APRIL 18, 1989

I would like to express my appreciation to the Chairman for convening this series of hearings on the issue of our nation's wetlands. The management and allocation of our wetlands is a critically important environmental issue, and one that has finally come to the forefront for thoughtful discussion.

It is often very difficult to make a decision between our wetlands -- and other critical land uses, such as farming and transportation needs. I have been very concerned about this issue and have discussed it at length in the House Agriculture Committee as it relates to farmlands. I am glad to have the opportunity to explore this issue further in the Public Works Subcommittee on Water Resources, as much of my Congressional District in Southeast Missouri lies close to the Mississippi River and other tributaries. The water table is very high in these areas; thus "wet land" is, for better or worse, often in great abundance.

This issue has caused a great deal of anxiety with farmers in my district. Environmental concerns have been pitted against those of agricultural production. I believe that we must look for a balanced response, and I am delighted to work with the Subcommittee towards this goal. Thank you again Mr. Chairman, and I look forward to the task ahead of us.

Mr. STANGELAND. Thank you, Mr. Chairman.

Today we continue the subcommittee's hearings on wetlands and the various programs and laws designed to protect wetlands. As you indicated, we will hear from the Fish and Wildlife Service, the National Oceanic and Atmospheric Administration, and the Soil Conservation Service.

This will be a good follow-up to last week's hearings, when the subcommittee listened to testimony from EPA, the Corps, the Conservation Foundation, and other members of the National Wetlands Policy Forum.

Some of the themes that emerged from last Wednesday's hearings are that Section 404 of the Clean Water Act is part of—but not all of—the problem, that the Section 404 Program requires a delicate balancing of conflicting interests, and that we should pursue more restoration and creation of wetlands.

Last Friday, the subcommittee also traveled to Minnesota to receive more detailed testimony on agricultural drainage ditches and prairie potholes. We heard from a wide range of regulators and citizens about the need to protect both wetlands and existing property rights to maintain existing ditches.

As I said earlier, we don't have to choose between ducks or ditches or between farming or fishing, we can have both.

I think today's testimony should help us find a more acceptable balance so that, in fact, we have both.

I look forward to this hearing and hopefully an ongoing series of hearings both in the field and here in Washington as we move to seeing the Administration proposal on wetlands and certainly proposals that some of our committee members might want to offer themselves.

Thank you.

Mr. NOWAK. Thank you, Congressman Stangeland.

We could, I think it would help to bring, since all of this information is interrelated and we are looking for agency cooperation, we will start here by bringing all three of the witnesses to the table at once.

We will hear all their testimony and then go through the questions as they present themselves after we have had the opportunity to listen to the direct testimonies from the witnesses.

We have before us from the Department of Interior, U.S. Fish and Wildlife Service, Dr. Ralph Morgenweck, the Assistant Director for Fish and Wildlife.

We have from the Department of Commerce, National Oceanic and Atmospheric Administration, Dr. William E. Evans, the Under Secretary for Oceans and Atmosphere.

Thirdly, if we can set up a convenient speaker microphone there, from the Department of Agriculture, Soil Conservation Service, we have Matt Gray, who is the Assistant Chief of that organization.

Gentlemen, welcome to the committee.

Gentlemen, thank you for changing the date of your appearance. We have your statements which will be made a part of the record in total.

TESTIMONY OF DR. RALPH MORGENWECK, ASSISTANT DIRECTOR, FISH AND WILDLIFE ENHANCEMENT, U.S. FISH AND WILDLIFE SERVICE, DEPARTMENT OF THE INTERIOR; WILLIAM E. EVANS, UNDER SECRETARY, OCEANS AND ATMOSPHERE, DEPARTMENT OF COMMERCE, AND MATT GRAY, ASSISTANT CHIEF, SOIL CONSERVATION SERVICE, DEPARTMENT OF AGRICULTURE

Dr. MORGENWECK. Mr. Chairman, with me today are Dr. Robert Streeter and Mr. David Stout of our Division of Endangered Species and Habitat Conservation. Mr. Stout is our Section 404 specialist.

In addition, I am accompanied by Mr. David Smith of our Division of Endangered Species and Habitat Conservation, who is our farm bill specialist and Mr. Jon Goldstein of the Department's Office of Program Analysis who authored the report entitled, "The Impact of Federal Programs on Wetlands," Volume 1.

With your permission, they also will be available to answer questions from you and the subcommittee after completion of my statement.

Mr. NOWAK. Thank you.

Dr. MORGENWECK. Mr. Chairman, and subcommittee members, I appreciate the opportunity to discuss the wetland conservation activities of the U.S. Fish and Wildlife Service.

The Committee is to be commended for recognizing the importance of wetland resources and for taking the initiative to conduct this oversight hearing.

Right now, nothing is more exciting to the Service than the prospect of a national commitment to strengthen our sense of stewardship for wetland resources.

The President decided to establish an interagency wetlands task force under the auspices of the Domestic Policy Council. The objective of the task force will be to work toward no net loss of wetlands as a national goal. We anticipate that the first priority of the task force will be to review the existing executive order on wetlands protection issued in 1977 as well as existing law and regulations.

The Administration is in the process of establishing a task force, and we expect that this group will be at work in the very near future. Until the task force has had an opportunity to review the recommendations of the Conservation Foundation's National Wetlands Policy Forum, the Administration will not comment specifically on those recommendations.

Many of the Service's ongoing wetland activities, however, relate to items discussed in the Forum report. The description of our programs, therefore, will highlight areas which the task force will be reviewing.

Our nation has lost well over half of the 215 million acres of wetlands we believe existed in the contiguous U.S. at the time of European settlement.

As indicated in the Secretary of the Interior's December 1988 "Report to Congress on the Impact of Federal Programs on Wetlands," the Federal Government needs to accept its share of the responsibility for many of these losses up to this point in time. There has been no national policy to ensure consistency among all Federal programs with regard to wetland conservation.

As a result, many of these programs have not fully considered the functions and values of wetlands. Other programs still encourage wetland drainage and conservation. Several of the recommendations in the report which relate to Federal programs have been endorsed in the Forum report.

Although the Administration has not yet taken a position on the Secretary's 1988 report, its recommendations will be closely reviewed and assessed by the interagency task force.

The Service is pleased that President Bush has indicated his support for "no net loss of wetlands" as a national goal. The Service believes as a nation and a government we can achieve the balance required by this policy.

If you think about wetland conservation in terms of a ledger-sheet account, our annual losses, or outlays, and our gains, or income, range from 20-25,000 acres. Each year, almost 20 times more wetlands are destroyed than are restored or created.

To achieve the goal of "no net loss," therefore, we must cut our losses and, more importantly, increase our gains.

The Service has had a broad and long-standing commitment to wetlands protection, management, restoration and enhancement.

As evidence of this commitment, I offer the following examples of current activities related to wetland resources.

As part of the National Wetlands Inventory, the Service, in cooperation with State and Federal agencies, is mapping our wetlands nationally.

Approximately 60 percent of the Lower 48 States, 16 percent of Alaska, and all of Hawaii have been mapped since 1979. The Lower 48 States will be completely mapped by 1998 and Alaska will be completed as soon as possible thereafter.

In 1983, the Service completed the first comprehensive and statistically valid estimate of the current national wetland acreage and the rate of wetland loss from the 1950's to the 1970's.

Information from this status and trends report has been widely used in a number of major wetland reports, including the Forum report. The Service will update this status and trends report in 1990 and every 10 years thereafter.

The status and trends reports, when combined with the national wetlands maps, could be used to help determine the success of a policy goal of no net loss of wetlands.

The Service believes that educational programs will be essential if our goal is to eliminate net losses of wetland resources. We already have several programs that emphasize public education about wetland values.

For example: Twenty-three State-run locations across the country distribute maps developed by the National Wetlands Inventory; the Service has cooperated with the Environmental Protection Agency to develop brochures and pamphlets about wetland values; and a video developed through the Service's farm bill program, which informs farmers about wetland values, has been adapted for media use.

Certain funding is allowed to be used by the States to develop adequate research education programs that touch on wetland values and functions.

The Service manages over 34 million acres of wetlands in our National Wildlife Refuge System, including 5 million acres in the conterminous U.S. These areas were established principally for the protection of migratory birds and endangered and threatened species. The Service has been in the wetland restoration business for many years on our refuges.

The efforts which we have undertaken would be applicable on a broader scale to development of a national wetlands restoration program.

The Service is implementing the North America Waterfowl Management Plan, an agreement signed by Canada and the United States, that relies on wetland habitat protection, restoration, and enhancement to restore the continent's waterfowl populations to the numbers that had occurred in the early 1970's.

Drought and the draining of wetlands contributed to a drop in the continent's fall flight of waterfowl from an average of 100 million ducks in 1970–1979 to a projected 66 million in 1988, the second lowest on record.

Major components of the Plan include: (1), establishment of population goals for ducks, geese and swans; (2), joint ventures between private and public entities; (3), research and development; and (4), listing of approaches to protect and manage wetlands.

During March of this year, an agreement was signed between the Service and the Department of the Army to conserve and improve wetlands on more than 9 million acres managed by the Army Corps of Engineers.

The properties include wetlands in navigation and flood control projects, many of which are important waterfowl habitat.

A major provision of the agreement is that the Corps and the Service will exchange information outlining civil works projects within the boundaries of the Plan's six joint ventures.

The Corps will describe current waterfowl management activities, seasonal waterfowl use, and the potential for increasing benefits to wildlife. The Service, in turn, will brief the Corps on national, regional, and local objectives and identify opportunities for improvements. After this information is shared, the two agencies will determine how plan activities and goals relate to present and future Corps projects.

Objectives of the plan will be considered in the conception, engineering, design, and construction phases of Corps civil works projects.

The Service has primary responsibility for implementing a number of international treaties and conventions dealing with conservation of migratory birds and is the lead agency representing the U.S. under the Convention on Wetlands of International Importance. Seven sites have been nominated for designation as wetlands of international importance.

Funding for land acquisition is authorized by the Migratory Bird Hunting and Conservation Stamp Act (also known as the Duck Stamp Act), Wetlands Loan Act, and Land and Water Conservation Fund Act.

During fiscal year 1988, the Service acquired 65,846 acres by obligating $31.7 million from the Migratory Bird Conservation Fund and, to date, has obligated $8.5 million to acquire 2,700 acres of wetlands during fiscal year 1989.

However, the Service recognizes that it will never be feasible or desirable for the Federal Government to acquire all wetlands, and thus it is necessary that Federal acquisition efforts be complemented by other public or private acquisition programs as well as regulatory and conservation incentive programs.

The Service has been attempting to make certain that public dollars are used wisely when wetlands are acquired. As directed by the 1986 Emergency Wetlands Resources Act, the Service completed the National Wetlands Priority Conservation Plan which provides general direction and guidance from the national level that can be used to identify wetlands that should have priority for acquisition.

The Service has been working with the department's Office of Program Analysis to prepare reports to Congress, as required by the 1986 Emergency Wetlands Resources Act, that address this issue and include recommendations for making these programs more compatible with wetlands protection.

The Secretary of the Interior submitted volume I to Congress on December 3, 1988. This report addressed wetlands losses due to Federal programs in the Lower Mississippi Alluvial Plain and Prairie Pothole Region.

Volume II, which addresses other problem areas throughout the United States, is being revised for upcoming agency review.

Wetlands or wetland-related research also occurs at the Service's research facilities located in Northern Prairie, North Dakota; Fort Collins, Colorado; and Laurel, Maryland. Research covers a broad range of wetland issues, including Louisiana coastal wetland loss studies, development of restoration methods, geographic information system development, waterfowl research, and coastal barrier island assessment.

Over 90 percent of the Service's environmental contaminant work deals with wetlands. Our work centers on determining the potential for harm to fish and wildlife species from contaminants that have assimilated into wetlands.

Non-point sources, such as agricultural and urban runoff, mine water leaching and pesticide use, as well as irrigation drainage, are major concerns.

More than one-third of the nation's threatened and endangered plant species and one-half of the animal species are wetland-dependent.

In our efforts to protect and recover these species, the Service has acquired wetland habitats critical to their survival.

The Service administers Federal aid funding to the States and territories for sport fish and wildlife restoration activities that include many wetland conservation elements.

The Service is one of the primary advisors to the U.S. Army Corps of Engineers and the Environmental Protection Agency on matters relating to the Clean Water Act's Section 404 permit program, which regulates the discharge of fill material into waters of the U.S. The Service reviews approximately 10,000 individual public notices each year.

Many of our recommendations on these public notices are intended to protect wetlands resources. As part of the consultation process, the Service provides recommendations to the Corps to mitigate wetland-related impacts.

The Service also provides technical advice to the Corps on Federal water projects. In this role, the Service assesses the effects of various development projects on fish and wildlife resources and recommends measures to protect those resources.

Provisions of the 1986 Water Resources Development Act regarding protection, mitigation, and enhancement of wetlands associated with civil works projects increase our role as technical advisors to the Corps.

These provisions are among the most progressive legislative steps ever taken for wetland conservation and were highlighted by President Bush in his February 9 budget plan.

The Service, Corps of Engineers, Environmental Protection Agency, and Soil Conservation Service define wetlands based on the same three basic elements: hydrology, vegetation, and soils.

Last year, we began working with the Corps, EPA, and SCS to develop a way to consistently identify vegetated wetlands for jurisdictional determinations. On January 10, the Service, EPA, Corps, and SCS signed a joint "Federal Manual for Identifying and Delineating Jurisdictional Wetlands."

This manual reconciles interagency differences regarding vegetated wetlands and will lead to more uniform, consistent and rapid wetland delineation determinations.

The Service is actively working with the Department of Agriculture and farmers through our farm bill program. We provide technical assistance to the Soil Conservation Service and the Agricultural Stabilization and Conservation Service on matters relating to wetland identification and on exemptions to the Swampbuster provisions of the Food Security Act.

Through our farm bill program, the Service has initiated a wetland restoration program. Nearly 16,000 acres of wetlands were restored in 1988 and a restoration goal of 20,000 acres has been set for 1989.

We are proud of these efforts. Restoring wetlands that have been converted to agricultural use is often cost-effective and highly successful compared to other types of wetland restoration. It also addresses many contemporary conservation issues, including soil erosion, ground water recharge, surface and ground water quality, safe and adequate water supply, stabilization of both flood and drought cycles, and fish and wildlife habitat, as well as recreation.

For these reasons, the Service views the restoration of wetlands converted to agriculture use as an important priority.

As my testimony indicates, virtually every aspect of the Service's work touches upon wetlands. Within our agency, a broad array of programs carry out wetland protection, management, restoration, and enhancement.

Mr. Chairman, I appreciate the opportunity to address the subcommittee on this important issue, and I will be pleased to answer any questions you may have.

Mr. **Nowak**. Thank you very much.

Before we go through the questions because they are so interrelated here, I would like to hear Dr. Evans and then Mr. Gray.

Mr. **Evans**. Thank you, Mr. Chairman.

Members of the subcommittee, I have with me this morning because of the rather complex aspects of our topic this morning, Dr. Nancy Foster, who is in charge of our Endangered Species and Habitat programs in NOAA and also Mr. Thomas Pike, who is the head of the National Environmental Satellite and Information and Data Service, since we do rely a lot on remote sensing.

NOAA is a wide ranging science and resource management agency with a significant interest in the nation's wetlands. Let me highlight some of those interests.

NOAA is a steward of the nation's living marine resources with management fisheries in the economic zone protecting endangered species. In these programs we are very concerned about the health of the estuarine and coastal wetlands which provide the central habitat. Seventy percent of important commercial and recreational fisheries depend directly on estuarine areas. Conservation of these habitats is, therefore, a primary goal of NOAA's fishery and habitat program. Our goal is to maintain or enhance the environment. This goal is met by avoiding impacts and by minimizing unavoidable impacts. To the extent that if these are not possible, mitigation and restoration should be considered. We have world class scientists who are the recognized experts in evaluating habitat requirements and defining acceptable replacement habitat. One significant project in this area is our pilot study with the Corps of Engineers to look at restoration in connection with specific Corps projects.

Over three years we have looked at restoration in four sites in North Carolina, Texas and California. Our final analysis of the project is being prepared, but we have learned how to work more cooperatively with the Corps to achieve mutual goals.

We have confirmed an existing regulatory program to provide opportunities to enhance and create viable fishery habitats. We also use our resources to advise, develop and permit agencies of the impacts they are likely to cause on wetlands.

Thousands of projects are reviewed each year, and we estimated the Corps of Engineers, for instance, adopts our major recommendations 80 percent of the time.

We believe that the agencies should work together to address the complex issues involved in the President's goal of no net loss. We expect to participate in a Domestic Policy Council Task Force. We will work together to propose and adopt a single, strong national mitigation policy. Other parts of NOAA contribute to our overall activities related to habitat.

The Great Lakes Environmental Laboratory, for instance, conducts a Corps research program to evaluate the effects of climate change in the Great Lakes. Altered lake levels could directly affect the character and function of wetlands systems. The National Grant College Program has directed a wetland program. In fiscal year 1988, sea grant wetland-related research totaled approximately $2.3 million. These projects studied nutrient and tropic levels.

The National Ocean Service provides essential products and services in three very important areas.

One, accurate monitoring of shoreline motion. Two, near-shore hydrographic coverage to understand causes of changes in the shoreline. And three, historical data to show long term changes in the U.S. shoreline.

Those are fundamental to essential wetlands management and climate. Similarly, we are developing a global absolute sea level network jointly funded by NOAA and the Department of Energy. This will allow accurate productions of coastal areas that may be lost to sea level rising as a result of global warming.

NOAA is working to computerize data. We are producing a series of atlases summarizing this data and expect it to be done by the end of this fiscal year. Our estuarine programs office is a focal point for coordination of our estuarine and coastal activities inside and outside NOAA.

The office is a conduit and liaison for information and technology transfer among agencies and the public. Our management program establishes a framework to encourage States and territories to respond to increasing demands for the use of coastal areas.

We provide financial and technological assistance and policy guidelines to State and territorial government.

This assistance and guidance is issued to prepare and implement programs which balance the use and conservation of coastal and ocean resources. Twenty-nine coastal States and territories covering 94 percent of the coastline now have federally approved coastal management programs.

NOAA has developed a predictive program called "Coast Watch." It uses focused products and rapid dissemination techniques to supply information to address immediate coastal management needs. This program has been producing near real time data products using environmental satellite along the oceanographic and weather data for the Southeastern United States.

We are in the planning stages for a prototype Coast Watch Program to monitor the losses or gains in coastal wetlands.

Mr. Chairman, it should be apparent that NOAA's responsibility in the wetlands area responds to the needs of many Federal and State coastal wetlands managers as well as the scientific community. Our efforts help ourselves and others achieve the President's policy of no net loss for America's wetlands.

In the future the President will establish an interagency wetlands task force to work towards no-net loss of wetlands as a national goal. The wetlands interagency task force should play a major role in developing and implementing programs that encourage wetlands protection and recovery.

The task force should play a major role in public education that fosters a better understanding of the value of the wetlands as a national resource. Until a task force has been established and begins its work, the Administration will not be in a position to comment on or support specific wetlands recommendations made by the conservation foundation national wetlands policy forum.

Mr. Chairman, I will be happy to answer any questions you may have.

My staff is at your disposal.

Mr. **Nowak**. Thank you very much.

Thank you for the preparation of a very well-documented statement you submitted for the record.

Mr. Gray.

Mr. **Gray**. Thank you.

Mr. Chairman, and Members of the subcommittee, I am happy to have the opportunity to represent Chief Scaling of the Department of Agriculture, Soil Conservation Service, and review the activities of our agency.

First I would like to summarize them and then I will be happy to try to answer any questions which you might have.

The Soil Conservation Service for many years had a long history of providing conservation technical assistance through local conservation districts to farmers, ranchers, and other land users.

Part of this assistance has concerned drainage establishment and the improvement of drainage on agricultural lands. But times changed. Since the 1970's our technical assistance has been largely restricted to individuals who wish to improve crop productivity on existing farmed wetlands.

We also work closely with the U.S. Army Corps of Engineers to ensure that recipients of SCS technical assistance comply with Section 404 permit requirements. In this regard, individual cooperators are informed by SCS of their responsibilities for complying with Section 404 requirements.

For SCS project type activities such as those carried out under the Public Law 883-566 the Small Watershed and Flood Protection Act. SCS's policy recognizes the need for project sponsors to mitigate adverse impacts where wetlands will be altered or destroyed.

The act dates back to 1954 and authorized the USDA to assist local units of governments in planning and implementing water resource projects for many purposes including flood prevention, erosion control, irrigation, drainage, water based recreation development, agricultural pollution control, municipal and industrial water supply, and rural water supply.

Today, 1,462 projects have been planned and authorized for installation. Many of the projects have been completed. Of the operational projects today 63 still contain some drainage features.

We have over 200 projects in the planning stages today, and none of those projects has drainage as a primary purpose. Each project under the act undergoes an extensive environmental analysis during the planning process.

The National Environmental Policy Act (NEPA) procedures are used to document environmental impacts. Wetlands issues are a factor in the project formulation because structural measures to control flooding are by necessity often located in wet areas.

Wetland mitigation or wetland replacement plans are included as part of a project when structural measures adversely impact valuable wetlands. When we build a flood control structure, we have a 404 permit and mitigate any losses in the wetland.

We have over the past two years in some of our older projects had the purpose of agricultural drainage. We have reduced the backlog, if you will, by taking out about $200 million worth of structural work out of these old projects. I can't tell you how many dollars of that were for agricultural drainage.

These projects also will require, of the 63 that have drainage left in them, if the drainage work is carried out, it will require a determination under the Swampbuster provision in order for the producers of these to be carried out and produced to retain their eligibility. So we don't know how many of them will be carried out. Obviously, a good many of them will not be.

Under the Federal Security Act, the Soil Conservation Service is responsible for technical assistance in the, under the Swampbuster provision. This provision has the purpose of preventing the conservation wetlands for the purpose of producing an agricultural commodity, and producers lose eligibility for certain USDA benefits if they drain agricultural land.

To date, 17 producers have lost benefits amounting to over $700,000. Some 60 producers appeals on wetland violations are pending. So 60 other producers have been called in violation, but their appeals are still pending.

As you were told earlier, the Soil Conservation Service, Fish and Wildlife Service, the Wildlife Protection Agency and the Corps got together to work out procedures to develop a common procedure to aid wetlands.

We believe it is better for everybody concerned, for everybody to draw the same or approximately the same line on a map delineating wetland, whether it be an employee of the Corps of Engineers or whether it be an employee of the Fish and Wildlife Service or SCS or EPA.

We believe it was in everyone's interest to develop that four-way agreement in terms of determination of wetlands by the four agencies involved.

We are now using this definition, and these procedures in all aspects of our technical assistance watershed program and not just administered to the wetlands provisions of the security act.

The final rule of Swampbusters requires participants in the USDA program to indicate whether or not they plan to alter any wet areas on their farm. When a producer comes into USDA to apply for benefits, they fill out a form we call AD-1028.

They have to indicate whether they have wetlands on the land and also whether they intend to do modification of those wetlands. If they intend to modify those wetlands in any way, the Soil Conservation Service makes the determination in fact whether or not they are wetlands, within 60 days.

If they don't indicate, if the producer doesn't indicate any intent to modify those wetlands, we get out there when we can. It wouldn't be within the 60 days, but if the 1028, when resources permit.

Wetlands converted prior to December 23, 1985 are exempt from the wetland provisions except for certain areas such as potholes and seasonally flooded or bonded areas. We found there are some areas that producers had drained down to a certain level but had not drained the entire area. So there was a concern that if we call the whole area converted wetland, it would allow additional drainage.

We put that into the rules and regulations that any area that is bonded and still retains wetland characteristics still is subject to wetland even though part of the field may be converted wetlands and exempt under the provisions of the act.

As of March 31, 1989, we made over 430,000 wetland determinations on about 4.9 billion acres of wetland.

In 1989, we provided 20 of our States with about $7 million of additional funds to do some wetland mapping. We found out in North Dakota there was a lot of concern, and as Mr. Stangeland knows, also in Minnesota, a lot of concern about Swampbuster. A lot of the producers weren't sure as to whether their land was covered by the Swampbuster provision or not. That caused a lot of consternation and a lot of concern.

We went out last winter and mapped, block mapped the country to determine where the wetlands were, worked very closely with the Fish and Wildlife Service. We found that that alleviated a lot of the concern, it alleviated a lot of the concern of the farmers, also of folks that were concerned about the technical quality of the delineations that were being made. We felt like this was a process that worked very well.

So we allotted $7 million last year to other States. I understand about 20 States were involved, for them to do some concentrated mapping in some areas that had a lot of wetlands.

We thought this would help in administering it and alleviating some of the concern, at the same time be a more efficient way to operate.

The Soil Conservation Service also provides assistance in implementation of conservation reserve program and the water bank program, two of the other programs of USDA that affects wetlands.

In the last sign up, we now have over 28 million acres of land that had been signed up since 1986 in the Conservation Reserve Program. In the last sign up we modified the criteria for going into the program so that previously cropped wetlands could go into the Conservation Reserve Program.

We don't have final data on that yet. But our first indications are that about, as many as 300,000 acres of farmed wetlands came into CRP in the last sign up. We believe that this has a potential for providing a lot of additional, a creation or recreation, if you will, or restoration of wetland and will be an important part, has a potential at least to be an important part of the President's no overall net loss policy.

Mr. Chairman, I will be happy to, try to attempt to answer any questions that you or other Members of the subcommittee might have.

Mr. Nowak. Mr. Gray, one point on that last program that you mentioned that recreating some wetlands out of agricultural lands, looking at the overall posture of what has happened in the country, we realize that perhaps 75 to 80 percent of the loss of wetlands has occurred because of agricultural activities throughout the country. Now perhaps we are looking at some small way to start reversing that trend.

If it is true that we are down to 99 million acres of wetlands from the 212 or thereabouts figure we started with, it seems to me that would be a big help. What transpires in that exchange?

What commitments do we have to make to bring that back? Is it an estimate that you receive as that land is put back into wetland category?

Mr. **Gray**. Mr. Chairman, essentially it is a rental program for 10 years. We go into a 10-year contract with a producer that calls for USDA to pay that producer an annual rental payment. In addition, USDA pays half of the restoration cost of either putting the land back into hardwood timber or whatever other wetland restoration activities is needed to restore the wetlands.

Mr. **Nowak**. What happens after that 10 years? Did you have an option? Is it totally renegotiated?

Mr. **Gray**. The Food Security Act allows contracts up to 15 years. The contract could be renegotiated for up to an additional five years.

There hasn't been any talk of that at this point in time to my knowledge.

Mr. **Nowak**. Once that program creates that wetland, suppose the 10 years expires and you come down and that land is still, the quality of the land itself is still wet, it still qualifies as wetland, that farmer could not then revert that back to agricultural use; could he?

Mr. **Gray**. No, sir he couldn't and be eligible for participation in USDA programs because of Swampbuster. If this is on land that is subject to Swampbuster—and I don't want to misled you here. I may be wrong on part of it. Part of it may be land that was converted prior to the Food Security Act, in which case it would be exempt.

In that case I don't know of anything in the act time that would preclude that coming back into cultivation. If the land was subject to Swampbuster before going in, it would be subject to Swampbuster when the contract period is over. In that case he couldn't convert it back to annually planted crops and retain program benefits.

Mr. **Nowak**. Last week we had the opportunity to fly over examples of the many different aspects of what each of you hit on today, we were flying to one specific wetland site that there was a drainage ditch and the Army Corps refused the 404 permit.

In looking at the land areas right near where the drainage ditch has filled not entirely, but it was probably about two and a half, three-foot deep, you can see the tremendous width of that wetland impact. You just walk away from that stream on both sides, and, of course, the land is always raising as you are walking.

Then you hit the different vegetation that is occurring as you go from a very moist, almost sinkable soil condition to a little firmer, and you walk up that hill to that "island."

Within a quarter mile zone on that particular one that we walked, it was amazing to see that that whole area would have disappeared had that drainage been allowed to go down another three-, four-foot.

We were looking at the soil, the nutrients that were held up, and it was just an excellent example of what nutrients would be held in that soil, you know, with the condition that is present there and what would happen to all the pesticides and everything else that, from the crop area that was more than a quarter mile away coming into that area because of a couple of feet difference.

When you look at that, I am wondering how coordination of all of that—because there is wildlife impacts. I am sure there are different species of birds that would use that, especially through the fly-away zone. And if you looked at that, it really was a mixing of agency responsibility.

You could see everybody from EPA to your three agencies involved and having a very direct interest in that piece of property. And I am wondering how that coordination is occurring today with the new wetlands delineation manual. In other words, is that agreement on wetland definition broader or narrower, or is it a mixed bag from what it was?

Anybody—although, I suppose, can answer.

Dr. **MORGENWECK**. If terms of the wetlands delineation manual, we believe that it will reduce the level of disagreement between the Federal agencies. Prior to this, we had used hydrology in a different way.

In many cases a permit applicant was the victim of disagreements among various agencies. Since we now have a hydrology-based delineation method, we will be able to give the permit applicant a clearer and quicker answer when the applicant submits an application.

Over the last couple of years, our coordination has improved substantially, at least, with respect to the Fish and Wildlife Service and our relationship with the Department of Agriculture.

With the advent of the farm bill, we have dealt more closely with the agriculture community and individual farmers with our wetland restoration program. I believe that we have substantially improved our coordination on these wetland issues.

Mr. **NOWAK**. Dr. Evans.

Dr. **EVANS**. Yes, Mr. Chairman, we are following pretty much the guidelines as set down by the Department of the Interior. As we get a little further away from the ocean and the water starts getting a little less salty, we start depending very closely on our colleagues in the Department of the Interior. And so that in our wetlands inventory, which we are using right now, it is basically the definition and the inventory of the Fish and Wildlife Service, which we are computerizing and using for that area where it gets into the estuaries, and in our area.

So I think from that standpoint between NOAA and the Fish and Wildlife Service, I think there is some very good consistency.

Mr. **GRAY**. I am not sure. I kind of believe that as far as we are concerned in the Soil Conservation Service, this follows the procedure we have been using and put in our rules and regulations for the Swampbuster provision. That was put together with the technical people, the biologists, with consultation with Fish and Wildlife Service, with EPA and with the corps. And I just kind of believe that what happened is that these fellows got to work and they found they could work together to develop a set of procedures to do that process.

And lo and behold, it turned out to be a procedure that everybody felt like they could live with, and I feel like everybody outside of the Federal Government said that they would be much better off with everybody using a consistent definition and procedure so that everybody would draw the lines on about the same place on a map.

I think it is something that came about as a matter of just having a better way of doing business.

Mr. NOWAK. Well, that was one of the wetlands forum's recommendations, I think, among many others for the coordination of all the agency's work. We have mentioned the task force. Do any of you have an idea as to a timetable when we would expect that work of the coordinating agencies to be completed and perhaps receive back a report here of any legislative changes that would not be accomplished administratively?

Is there any mention of a July date?

Dr. EVANS. Mr. Chairman, as far as NOAA is concerned, I can check that and we can provide, if we do have a time lien for you for the record. I certainly have not heard of one, and so at this time other than somewhere this summer or later this summer going on into the end of fall, but I will check that out and get more precise information for you.

Mr. NOWAK. Well, I would hope that the interagency task force would not run this past fall. We would like an opportunity to start moving as soon as we can get that input back into the committee and any changes that we would be obliged to make, so I hope you could take it to your group and mention that there is some urgency.

I think the issue is well-documented now. A lot has been done since the head of the EPA has more than a small role in the accumulation of that report. One of the things you mentioned about NOAA testimony, the NOAA research in the Great Lakes and I wonder if you could, or anyone here could, because of Mr. Stangeland's great interest in the Great Lakes, tell us where the research is on going and how is it being coordinated with the national EPA Program Office in the Great Lakes.

Dr. EVANS. In terms of how it is being coordinated with the EPA office, we work very closely with the Environmental Protection Agency, have a number of memorandums of understanding in areas where we have overlaps, and we do have some overlaps.

That is a problem area but we have worked that out, I think, this year, especially with Mr. Reilly, and we are continuing to work on that. In the Great Lakes we are concentrating in a number of areas. I think the most important area has to do with water level and water quality in the lake property. We are interested in the effects of increases and decreases in lake level and the effect that this has, and the laboratory there concentrates on that.

We do a lot of ecosystems, which is very important. In fact, actually the closest we got, we were watching very closely—Congressman Stangeland and I were both in his State just last summer as a part of the President's drought task force. And one of the things that we were really concerned about at that time and that laboratory was very much involved in it, as well as the National Weather Service because of the drought that we had in the area.

We were watching Great Lakes very closely in terms of the effect that drought was having on the lakes, so major areas, systems ecology we are working very closely in the area of pollution. We have a lot of interest in terms of status and trends programs, in terms of man-made sources of pollution.

Of course, we coordinate all that with the Environmental Protection Agency, but we do provide, as I am sure you are aware, Mr. Chairman, we are in many cases the analytical laboratory for the Environmental Protection Agency contract to them to provide levels of chemistry, look at heavy metal levels, pesticides, at chlorinated hydrocarbons and other sorts of pesticide levels and other things.

So, we are very much involved in that. In fact, actually we are hoping to—in our Coastal Climate Program, the Great Lakes will play an even more important part in looking at the water quality level in that whole basin.

Mr. **Nowak**. Well, we may have some more specific questions about that program, and how it is being coordinated with the Great Lakes National Program Office and that whole relationship, but I will submit those in writing. I don't want to take too much time away from the other Members, except to request one other area, and I think there is too little information concerning this at least known in the general public, and that is really the impact of that whole commercial fishing industry we have, and the impact by the wetlands and the role that estuaries play for not only the sport fishermen, but perhaps more importantly, the commercial fishermen, the different species that are fed through that system.

And I would like someone who is—I am sure you have a lot of written material about that to submit to the committee and specifically looking at the impact and the benefits of that wetland area and what would be the consequences if they were to degrade its quality.

Dr. **Evans**. We have a great deal of information on that, and I would be very pleased to make that information available to the committee in writing. As I have said in my test, 70 percent of the commercial species that are caught, and that is both the East Coast and West Coast fisheries and the gulf are basically dependent on estuaries and wetlands for their population levels.

That's where the recruitment comes from. As we lose that, those fisheries go down and especially in the gulf areas like Louisiana and Texas, the shrimp fisheries are entirely dependent upon the estuarine and the wetlands areas.

Mr. **Nowak**. Let me turn to Mr. Stangeland. We will keep the report of this hearing record open, and we will submit specific questions to you to fill in the report as time goes on, and I would appreciate any quick turnaround on those kind of questions as we complete this record.

Mr. **Stangeland**. Thank you, Mr. Chairman. I am going to yield to Mr. Ballenger. He will have to leave and I expect that maybe his questioning will take enough time so that we can go vote.

I will yield to Mr. Ballenger first.

Mr. **Ballenger**. Thank you, Mr. Chairman, Mr. Senior Member. Being from North Carolina and having helped write the North Carolina Coastal Management Act when I was in the State Senate and having been very active in the conservation program down in North Carolina, I understand the issues dealing with wetlands.

If I can say so, I think that our history has been good as far as the conservation of wetlands but we are facing a real problem. I am addressing my comments to Mr. Morgenweck. On our Outer

Banks the storms of this last year have just about washed away the north end of Hatteras Island including the base of the Bonner Bridge, which is what I am referring to.

I am not talking about building a jetty that everyone has been fighting for 20 years, but rather a rock groin. The base island itself has lost 32 acres in the storm, and the base of the Bonner Bridge is about to be washed away. We approached the Secretary of the Interior about it.

Secretary Lujan said to clear it with the Army Corps of Engineers. I think we have done all this, but we can't seem to find out what the hold-up is, which I think is at Interior. We are not trying to build the jetty that everybody has been fighting. We just want to keep our island that is basically full of wetlands that have just about washed away and at the same time protect the base of our bridge. Can you venture an opinion as to the likelihood of being able to get permission to build a groin?

Since the island is just about gone, the structure is now going to have to be built in the ocean. Governor Martin has said that we will pay for it. We will do everything. We are just trying to get clearance, and we can't seem to get it.

Dr. **Morgenweck**. I am somewhat familiar with the issue that you are talking about. The Service's Regional Director in Atlanta, Mr. Pulliam, has been dealing with that issue during the last few weeks at the request of the Secretary.

I am also aware that negotiations have been conducted with the Army Corps of Engineers. I believe that the State of North Carolina is also proceeding, and understanding that some resolution, has been developed.

I would suggest that we investigate the issue and provide information to you that is more detailed than what I now have at hand.

Mr. **Ballenger**. I would greatly appreciate that, if you would, because I don't know where we stand, and the Governor calls me up and says, "What have you done lately?" And I said I don't know who to approach anymore since I seem to have done it all. I would appreciate that.

Mr. **Nowak**. We would appreciate that also, for the record, and if you could submit it in the next few days we could get that over to Congressman Ballenger to see who else is coordinating that. It is a very important initiative.

Let us stand in recess for 10 minutes until we answer this roll call vote. We will stand in recess.

[Recess.]

Mr. **Nowak**. The subcommittee will come to order. We will resume with some Members' questions and comments, and as Members get back from the Floor we will give them an opportunity to ask whatever questions they would like. First let me turn to Dennis Hastert from Illinois.

Mr. **Hastert**. I have no questions.

Mr. **Nowak**. Dennis has no questions. Let me ask, if I may, then—we have one of the primary recommendations, as I recall, of the policy forum is to increase the role of States somehow in all of this management and expansion of our wetland protection activities.

I wonder if you could, each of you, could think about what impact that could have on the total no net loss recommendation. And if you see any viable expansion of the State's role in this area and you see a renewed interest in it.

Dr. **Morgenweck.** Mr. Chairman, several issues are involved in discussing State assumption of the 404 program. First of all, as we know money is needed to administer the program. The Corps of Engineers has nearly a thousand people who are administering that program now and, certainly, the States would require some level of resources to do that.

There would also be some need for minimum program criteria or requirements so that, if the States did take the program over, there would be some reasonable level of consistency from State to State. One of the things that we ought to keep in mind is that States do have an involvement in the 404 process now through their water quality certification process. Section 401 of the Clean Water Act deals with degradation of water quality, and can be a very powerful tool for State involvement in the permitting process.

Mr. **Nowak.** Let me turn to Arlan Stangeland for his remarks. He, I assume, has something to say.

Mr. **Stangeland.** Thank you, Mr. Chairman, I will yield at this time to Mr. Hancock to whatever questions he might have for the witnesses.

Mr. **Hancock.** One of the things that the Chairman mentioned, Mr. Nowak mentioned earlier, and I think it is a valid question, has to do with this ten-year program of crop land set-aside. You mentioned that there is a possibility that this land would be put in hardwood and that type of thing.

I wonder has anybody considered the possibilities of requiring that this wetland be put into hardwood? The question was brought up what happens after the ten-year program. I happen to be involved in walnut farming, planting walnut trees.

I have been wondering for quite some time why when we put this in on these set-aside programs, it would require hardwood be planted within about two years. At the end of an eight-year period you have a stand of hardwood trees there that in many cases would be more valuable, maybe in another 20 years accumulation, would be more valuable than putting the land back into some type of crop production.

And what I wonder is why it wouldn't be feasible to say that when you put land or take the land out on some type of a Federal support program that requires it to be planted in some crop like hardwood where you are not going to go back in there and plow it back up because the crop then is more valuable than putting it back.

Mr. **Gray.** Mr. Hancock, as a matter of fact, in our rules and regulations which we issued to make farmed wetland eligible for the conservation resource program, we required that if the land was suitable for bottom land hardwoods that it go back into bottom land hardwoods.

As you can imagine, it went over pretty well with most folks. There were a few who didn't like the idea, but I agree with you. I think it is a good move to put that land back into bottom land hardwoods. We left the provision in there for parts of it to be kept open and wildlife feed areas and other things for wildlife habitat improvement, but, yes, that was a part of our process and procedure for bringing the farmed wetlands into the program.

Mr. **Hancock**. Thank you. Thank you, Mr. Chairman.

Mr. **Nowak**. Thank you very much.

Mr. Cox, do you have any questions?

Mr. Cox. I do. I would like to follow up on the Chairman's question about timing. When will the task force get underway? It is being organized under the auspices of the Domestic Policy Council—the wetlands task force on the agenda of an upcoming DPC meeting? Do you know at which one and which date?

Dr. **Evans**. Well, since I have been sitting in some of the DPC meetings, the last three working group meetings, Congressman, that I have been in, the major policy issues that we have had have been CFC's, acid rain, and the air quality and an air quality legislation, so those have been the primary things.

I know that further on down the line, and that's why when I was responding to the Chairman's question that I said later in the summer is that I did get a chance to look at it down the line and water quality and wetlands were one of the issues that were laid on for later on in the summer. But within the next couple of months, to the best of my knowledge, unless it was put on while I was up in Valdez, it was not on the last agenda that I saw within the next couple of meetings. So right now it is not.

Mr. Cox. It would probably be well if the organizational meeting to get the interagency task force underway were put on the agenda, so it could then move on with its work.

Dr. **Evans**. What I will do, Congressman Cox, is that the next time we have a working group meeting, I will talk with the executive director of the investigative policy council, and I will suggest that the committee has suggested this is a high priority item and we should put it on the agenda.

Mr. **Nowak**. Dr. Evans, if the gentleman will yield, will you send that response to the committee?

Dr. **Evans**. Yes, Mr. Chairman, I sure will.

Mr. **Nowak**. In writing so we can have some guidance as we go along when and if we can plan our own agenda here to bring these hearings to a conclusion.

Mr. Cox. My second question is addressed to Dr. Morgenweck. Your own testimony, as well as the report of the National Wetlands Policy Forum, suggests that there is need for a revision of Executive Order 11990. In what particulars do you think the executive order is presently not optimal, and what do you see being enacted in the new executive order?

Dr. **Morgenweck**. Until the Domestic Policy Council gets involved and reviews in detail the wetland programs, it would be very difficult for me to say specifically what changes might be made or should be made.

Mr. Cox. Do you know what is wrong with the existing EO?

Dr. **Morgenweck**. I have one suggestion, and that is to provide a national policy or a national overview in order to raise the level of concern about wetlands among all the agencies and ensure that all of the federal agencies are basically headed in the same direction on wetlands.

In the past, we have had some conflicting policies and have done things that were not always in concert with one another. Ensuring that everyone would pursue the same direction would be a major accomplishment.

Mr. Cox. So the testimony that you have given about the need to revise 11990 is based on your view that it is not sufficiently national in focus. Is that what I am hearing?

Dr. **Morgenweck**. What I am saying is that everyone will benefit, including the Federal sector and the private sector, with a nationwide policy on wetlands that eliminates the cross-purposes that have developed.

I am not necessarily saying that the present Executive Order is not national in scope, but that we, as a group of Federal agencies, have not been heading in the same direction.

Mr. Cox. And the EO would be used as a vehicle to get the executive branches installed?

Dr. **Morgenweck**. I would hope so.

Mr. Cox. I noticed in your testimony that under the Migratory Bird Conservation Act, $31.7 million was spent as of the close of fiscal year 1988. This is a relatively small amount in terms of buying up the nation's wetlands. In fact, a very large percentage of the nation's wetlands are in private hands.

You alluded briefly in your testimony to incentives for private land owners to protect and restore wetlands. What kind of a regulatory program do you have? What was that allusion to?

Dr. **Morgenweck**. Mr. Cox, during the last few years, we have had a wetland restoration program primarily focused in the prairie pothole region of Minnesota and the Dakotas and also in the southern part of the U.S. We have found that there are many landowners, private land owners who are very interested in wetlands, and, we have been able to restore some wetlands.

We have found many, many interested land owners out there who are not looking for necessarily a large subsidy to conserve wetlands but instead are looking for information or simply technical assistance, to conserve wetlands.

We have discovered the private landowners' interests in wetlands, and I am hoping that we can provide more incentives for private landowners to conserve wetlands since 75 percent of the wetlands in the U.S. are privately owned and the Federal Government and State government can never and should never own all of the wetlands.

Mr. Cox. I particularly agree with the latter. Thank you.

Mr. **Nowak**. Thank you very much, Mr. Cox. We will turn now to the gentleman from Mississippi, Mr. Parker.

Mr. **Parker**. Thank you. I think it is safe to say that everyone feels that wetlands are important. The difference is some people think they are more important than others. In my home State of Mississippi, we have seen a dramatic decrease in the amount of wetlands over the last few years, dramatic.

The problem that I see that now exists with the current wetlands program involving a lot of different agencies is that it lacks consistent definitions and clear policy goals. The absence of such definitions and goals have led clearly to conflicting programs and it places various agencies at cross-purposes. For example, in Mississippi one agency may eliminate subsidies to farmers bringing previously uncultivated wetlands into production while another agency spends millions of dollars to destroy hundreds of thousands of acres of bottom land hardwoods.

In order to move forward in our efforts to correct the problem facing wetlands, consistent definitions and clear policy goals must be established. In other words, we must speak with one voice, and that is exactly what you have been saying. The problem is, from an overview, because before you get really specific about anything you have got to have an overview.

How should we develop clear and consistent policies concerning wetlands from an overview, not getting real specific, how should it be worked? How should we develop it?

Dr. Evans. Congressman Parker, I don't think I have the great answer that maybe I would like to have, but I think that the interagency task force approach, I think, is a step in that direction. I think that one of the things that you have just done is pointed out what may be one of the initial goals of that task force ought to be is that before you get to the specifics do an overview, take a broader look at it on a national basis with all of the agencies there.

But until we get a consistency within the agencies where we are all looking at it and speaking with one voice and we are all defining the same thing and that we all are trying to head in the same direction, which is the President's statement that he wants no net loss, unless we do that in an organized fashion and we do it in cooperation on an interagency level we are going to stay with the same sort of chaos that we currently have.

I agree with you 100 percent on that. I don't know. I am sure that the Department of Interior and the Department of Agriculture and the Corps of Engineers and others agree with that, and I think that your caution may be a very important one for us to take, and that is to suggest when we do start on the task force to look at this if that's what we do.

We look at it on an overview basis first and come up with a consolidated policy before we really start to move forward with specific kinds of programs.

Mr. Parker. I feel very strongly in planning your work and in working your plan, being flexible about it. One thing that has never been built is a consensus. You don't do anything in this country without building a consensus, and if you don't build that consensus you will never be successful. You will always have infighting. You will always have special groups that have their own idea on how things should be done.

You will have part of that anyway. That is the problem. We have never built a consensus. People have tried to force their own way on what they thought was important and basically forgot about everyone else.

They were very myopic in looking at this problem. Unless we get an overview, unless we get a consensus as far as what is going to be done, we will never accomplish anything period, and I think everybody needs to realize that. Thank you, Mr. Chairman.

Mr. Nowak. Thank you, gentlemen. We will go back to Dennis Hastert from Illinois.

Mr. **Hastert**. Well, I just want to express some of my concern, I guess, as much as I have a question. Wetlands are many things to many people, and if you talk about coastal wetlands, certainly to someone who lives—in the East Coast especially, perhaps wetlands are something else. If you come from the prairies of Illinois, like myself, you know those wetlands are something that the pioneers tried to dry up to farm on. To reclaim them seems to be almost an impossibility today. But there are some fens and what we used to call swamps and bogs and those type of things that are the wetlands.

I, too, say that we need to have a national policy, but Mr. Hancock's conservation reserve program land in Missouri is a lot different from the conservation reserve program land that we have in Illinois. So we need to look at the diversity of what people view as wetlands.

Is it lake shore? Is it the old stream bed that kind of got washed out in the field? What are wetlands and how are we going to deal with those things?

I am in one of the largest growth areas in the country right now, and we constantly have the highway builders and the developers coming to us and saying, "You know you are holding up progress. We need to do this."

Well, you know, there is value to wetlands and we have to take a look at it, but how are we going to mitigate these many, many different views that we have and put them in a national policy?

Dr. **Morgenweck**. I think that the situation that you describe is one that we all need to hear from. The kind of conflict that you are talking about are quite often those that need to be identified early on in any planning process, and I think that many of the agencies, including the service, have not let the development community know in advance just where the resources are that we are most concerned about.

In other words, we need to identify those wetlands in your State, for example, that the state is interested in, and that the Federal Government is interested in, so that we can try to avoid those areas up front before there is a lot of investment in some kind of a project.

We need to try very hard to get many constituencies involved in this. Although we may be talking about some kind of Federal policy, we need to involve the States and local units of government.

If we do not involve the private sector, this simply is not going to work. The earlier that we identify conflicts, the more opportunities we will have to avoid such problems.

Mr. **Hastert**. Let me take that one step further. The problem seems far removed from my district in Illinois, but it is not. One of the things that we have seen in Illinois recently is that our gas prices are going up and up and up like they are nationwide, and I have people telling me, well, we need a national energy policy in this country. We need to develop the engineering resources that we have within the continental or within the boundaries of this country.

Well, when I look at some of the statistics and some of the testimony here, you know, probably 80 percent of the wetlands that we have in this country are in Alaska, and for instance if we talk about developing the north coast of Alaska which is all classified as wetlands, how do you start to replace something like that?

How can we avoid having two national policies that need to be done without conflicting with each other or without just saying, well, we are not going to develop that period?

Dr. **Morgenweck**. As part of the discussion on "no net loss", Alaska has been raised a number of times, and I think that it certainly deserves some special considerations, and I think we can deal with these considerations. However, I also think that we have to continue to look at how we deal with wetlands nationwide and, in terms of balancing off one type of wetland for another type of wetland, in what part of the country are we losing wetlands, and where are we gaining wetlands, we will have to make some choices about these wetland losses and gains, and I think it will require concerted effort to deal with these larger policy issues.

Mr. **Hastert**. Thank you. Thank you, Mr. Chairman.

Mr. **Nowak**. Thank you. The gentleman from new Jersey, Mr. Pallone.

Mr. **Pallone**. Thank you. I missed your opening statements, so if I am repeating, just mention that. I would gather that the organizations or the agencies that are represented today probably could do the best job in terms of research. I noticed a lot of the comments in your opening statements speak to different research and education programs that you are involved in.

I want to go back to this whole question of wetlands replacement, if you will. In other words, those situations where wetlands, natural wetlands, are destroyed or dropped, and as a last resort they are replaced with those which are ecologically equivalent that is the statement that was made by Mr. Evans.

To what extent has research been done to indicate the viability of these replacement wetlands, whether they be artificial wetlands or restored wetlands? I am very concerned about the fact that in reality we can talk about replacing wetlands or we can taik about artificial wetlands, but they are just not as effective from an ecological perspective in terms of wildlife. I am thinking particularly of birds or even fisheries purposes.

Dr. **Evans**. Congressman, when you start to talk about national systems, you are never going to really replace a natural ecological system with a man-made one that is going to be as effective. We have had at least a three-year program going on in three different places in the Carolinas and Texas and with the Corps of Engineers where we have actually gone in and tried to plant different kinds of sea grasses and tried to replace some sea grasses in some areas where they have been lost in replacement programs.

There is a problem. These are not as effective as the natural grasslands and wetlands that are adjacent to them. They don't—maybe don't attract as many larval fish as the natural. Maybe they don't attract them at all. In some cases they attract different species, and we are still in the process of trying to work all that out, and that is one of the major research programs that we have.

We are going to continue that research, by the way. That's a high priority program, but the best approach in the first place is to find an area that can be utilized for one source where you don't really have an impact or mitigate a naturally existing very valuable wetland.

My responses are heavily biased from the fishery standpoint because from both the commercial and recreational fisheries, from the marine side, most of what we have in the economic zone, which is our responsibility basically as I said before, 70 percent of that comes out of wetlands. And so we have a very big stake as far as our constituents go in the maintaining the quality of the habitat.

In fact, I think some members of this committee may be aware, but in the fisheries management process that we use where we have regional fisheries management councils, those councils basically manage the fisheries in that area. That is a part of the modification of the Magnuson-Jeffries Management Conservation Act habitat considerations and in most cases this habitat consists of wetlands or estuaries or marshlands actually built in as a part of fisheries management plan.

That is new. That is a whole new thing. We now have fisheries management councils that are considering the habitat issue, but getting back to your original question, no, I don't think there is not a replacement. Research programs are important. I think that we need to work towards a goal of being able to come up with a workplace where we can build partially acceptable or at least the most acceptable that we can, based within the scientific knowledge that we have available.

I don't think we will ever get to the point where we will do as good as Mother Nature.

Mr. PALLONE. Just from my own experience, I know, of a case in my district where a permit was not obtained and then later they went back retroactively to obtain it. Basically we are talking about an area that was a square, which was mostly wetlands. The permit obtained required that the replacement wetlands be put around the perimeter of the square. Instead of having a solid block of wetlands, you had a perimeter area around where the development took place. I have gone back several times to look at that. And it just hasn't worked.

I imagine there are a lot of situations like that. One other question, We talked at the previous hearing about buffer zones or transition zones, which again, has come up in my district in certain circumstances where the development was allowed to occur right up to the edge of the wetlands, but there was no buffer zone in between.

Has there been any research on the need for buffer zones? That is a question that constantly comes up. I understand the notion that there is certain wildlife, for example, that uses the wetlands. You know there isn't this magic line that we may delineate on a map between where the wetlands stops and the upland area where development begins. Wildlife, in particular, birds, will go into that other area. I said at the previous hearing that hopefully part of this wetlands package will include the concept of these buffer zones or transition zones.

Has there been any research done on that?

Dr. EVANS. I think the Fish and Wildlife Service at least in some areas has done some work in that. I am not familiar with exactly what it is, but I know on some of the things I have read—maybe you could—you do have some programs, I think, on that.

Dr. MORGENWECK. I am not aware of any studies concerning buffer zones that relate necessarily to wildlife, but I believe that, in applying some wildlife principles, we do know, that waterfowl not depend just on the wetlands itself, but they also depend on adjacent uplands for nesting in many cases. Therefore, areas adjacent to the wetland are important to quite a number of species.

In the river systems, We have also found, with respect to migratory birds, that approximately 80 percent of the nesting goes on in this fringe of vegetation along river systems. We also know that, after rain events, these buffer zone areas have a tendency to slow the velocity of the water and, some of the sediments that might be carried by the water are released. These adjacent areas, therefore, do have a beneficial effect in many cases on the quality of the water in the wetland as well.

Mr. PALLONE. Thank you, gentleman. Thank you, Mr. Chairman.

Mr. NOWAK. I would like to turn now to Mr. Stangeland who is the recipient of the first water resource hearing outside of the district.

Mr. STANGELAND. Thank you, Mr. Chairman. Mr. Morgenweck, how often do you get out in the field and how many times have you been up to Minnesota and North Dakota?

Dr. MORGENWECK. I grew up in Minnesota, and I was there two weeks ago. I get to North Dakota occasionally as well.

Mr. STANGELAND. Well, let me say this. I am wondering how many times or how many farmers you have talked to. What I am going to say now I hope you take in the vein of constructive criticism. I am not going to pick on you.

Dr. MORGENWECK. Certainly.

Mr. STANGELAND. We have 70 percent to 80 percent, approximately, of the remaining wetlands in private ownership, and you are not the first one I have talked to about this, but I am going to keep talking until somebody starts to listen. I have talked to Mr. Arnett. I have talked to Mr. Dunkel, and let me tell you that until Fish and Wildlife uses a different method of public relations and dealing with private owners, we are not going to get the public-private cooperation you are talking about. There is just no way.

We have got a problem up there with perpetual easements. My farm, by the way, is located about six miles north of Manson Slough, which is now going into fish and wildlife and ducks unlimited. It is a very good program, excellent. I happen to have some wetlands that D&R and maybe Fish and Wildlife are interested in enhancing.

The only reason I haven't talked to them about enhancing it is I haven't any time. I have let it go back to a natural wild state. We have these perpetual easements, and the inflexibility of Fish and Wildlife, I wonder how many perpetual easements you have signed in the last four or five years. Can I dare say it is minimum? Maybe not, and you won't sign any in the future because the Fish and Wildlife is just intransient in helping or working with the farmer.

I have one farmer, very small, didn't farm, I suppose, tillable land about 160 acres, had a perpetual easement, the father signed, the father told the son it is okay. When I die you can farm it any way you want. I recognize that somehow to protect wetlands we have to maintain some kind of a perpetual control over that property.

In the center of his land, he had a wetland spot there. In order to farm a straight row on one end, he moved one wetland, I would expect, at the most 60 yards. He dug out a hole, and he filled the other one. The character hasn't changed. It was the same.

He was willing to work with Fish and Wildlife to enhance that as a better wetland. Before he came to me, universal, the local people took him to court. We are talking about a half acre or less where the change took place.

Took him to court down in Minneapolis, a small dairy farmer. He couldn't afford to do that. Fined him $500 and told him you have got to dig out this other wetland you filled and fill the other one you made. It was the most ludicrous waste of Fish and Wildlife's time that I have ever seen, and I think I am a reasonable person.

I was out there. I walked the land, took pictures of it. Ridiculous. I have another man. I fought for him for 12 years. I haven't seen him for about three. I don't know how he is fairing. Bought land with a perpetual easement on it. These perpetual easements you are aware were assigned about 20 years ago.

The farmer farmed with John Deere, or an International. He farmed what he could farm and what he couldn't farm, he left. Didn't have a lot of money, want to buy a trade-off or pick up, he took $1,500 or $2,000 for a perpetual easement.

From here on in, that signed his land in. Now, the farming practices have changed. Here we have a man who bought a farm with a perpetual easement, a large family, hard worker, didn't have a lot of capital to invest. It is an area near Parkersburg, very arid, sand soil. Unless you irrigate, you don't get crops. He bought an old irrigation system. It had a double number of standards with it that the new modern irrigation systems have.

It was driven at the wheel of point with the chains. Well, he decided the only way he could irrigate properly and maintain that irrigation equipment was to put walkways through the wetlands. He didn't drain anything, but he did fill. He filled up for the walkway. Fish and Wildlife wasn't satisfied with that, and has been harassing him.

I have been trying to help him. I think that is probably the only irrigation system of its kind in the area, but not because the law said, "no fill". He wasn't to fill. The biologists will say that fill could help predators get at the water fowl. I think they can concede there is a certain amount of that potential.

So they have devised a planning and rope system that he could put a walkway through there in the water. He couldn't walk his irrigation system through the water because the walkway wouldn't last a season. It is these kinds of things that cause problems for Fish and Wildlife in this public/private cooperation.

I think it has got to be. I don't believe we ought to have anymore drainage of wetlands. We ought to have some recruiting of wetlands. We ought to try to create new wetlands where there is not going to be that conflict between wildlife wetlands and agriculture.

Something else that I have had a lot of complaints on from farmers, we have weed laws up there.

The farmers have to mow their weeds. If they don't mow their weeds, the county will come in and mow them for them and assess them on their taxes. Fish and Wildlife will have a Canadian thistle, weeds that grow seed with a parachute. The wind comes and blows them off Fish and Wildlife land on to a private owner's land. This makes for some real problems, in any area that is a prime and popular wetland region.

Of course, I think we have defined prairie pothole as the western part of Minnesota in my district, but the pothole region at least extends down to St. Cloud and the west. You have got—Minnesota is prime pothole country, prime area where we ought to preserve everything we have. But we need to work at a better working relationship.

You can educate all you want to. There are a few farmers like myself. I will convert some of mine, but when I do I am going to know what kid of agreement I sign with Fish and Wildlife or D&R for my son or whoever might farm my land in the future, but it is these kinds of things you have got to take a look at, and if I can't get the guy in charge, like a Dunkel or Arnett to consider some flexibility in dealing with farmers, then I have got to talk to the career people like yourself, and also I think you need to develop a sensitivity for your people in the field who deal with these farmers.

This one problem with this one dairy farmer was—it makes me so angry I lose the ability to speak. It was just ridiculous. Now, I will just ask a couple questions. And then in the essence of time I would like to know about artificially created wetlands, either as mitigation or as new wetlands.

I know in your comments you talk about recreation and wetland to recreate a wetland that has been there makes a far better wetland, I would suspect, than one that is created where a wetland has not been before, but I am wondering what kind of experience you had because not only do we need that loss, we have to increase the number of wetlands.

I am a national trustee of Ducks Unlimited, you know where I am coming from. I have the conflict of agriculture and wetlands politically, but personally have a belief that right now I have got Canadian geese on both sides of the house on the farm in the country.

I don't know how many people have the privilege of waking up hearing honkers this time of year. I will tell you, it is a thrill. A lot of ducks between my place and Pelican Rapids. The wet slew has a whole bunch of ducks there on the migratory pattern.

I love them. A lot of other farmers do, too, but they want to work. They want to work with you, but you are not going to get much cooperation. I wonder—Mr. Gray or Mr. Evans may want to answer the same question. Thank you.

Dr. **Morgenweck**. In the last couple of years, Mr. Stangeland, we have worked on restoration of wetlands that had been previously drained, meant that the hydric soils, the wetland soils, still remained as did the seeds left over from the wetland plants.

All we did in this situation was add water. What we have found is that, in those situations, the wetland restoration seems to work extremely well.

Over the years, of course, in our refuge system we have created quite a number of wetlands through dikes, et cetera. I think we have had pretty good success with that situation as well.

I would say, as Dr. Evans did, that sometimes created wetlands do not function in the same way or to the same degree that a natural wetland does. As a result, there may be some reduction in the value of that created wetland.

This is the information that we have, based on various studies around the U.S.

Mr. **Evans**. My experience doesn't really come from programs we have had in NOAA in terms of creating wetlands because we have not done much of that except for the Corps of Engineers program that I mentioned in terms of creating habitat, which is, and we, of course, have had a lot of experience in habitat.

You are quite familiar with our programs where we have made artificial reefs and others.

My experience as a scientist in trying to recreate wetlands and recreate habitat, mostly in San Diego, has been a complete failure. We have tried to do it to develop nesting sites for Leese terns.

They seem to prefer the parking lot at Sea World over the area that we built for them.

My experience has not been real positive in that area, but I think it is something we need to keep doing.

I think going back to a question that was raised before. We need to continue to do the research in terms of creating the wetlands and habitat.

Mr. **Stangeland**. I will submit, Mr. Chairman, the rest of my questions in writing.

I do have one that I don't think is outlined in here.

We talked about the agricultural acreage loss and we are talking 50's to 70's. How soon can we quantify the continued loss of wetlands post Swampbusters because I am sure we have not lost anywhere near the number of wetlands under this bill as we have in the past.

I would like to have quantified, if possible, how much is being lost to industrial development, urban sprawl, coastal shoreline erosion, and agriculture. I know, I think we have got loss of wetlands all over, and agriculture is probably the main culprit.

After the farm bill it may not be as large.

Mr. **Gray**. We will be working on that. I think it is important we know what kind of impact we are having. We have not at this point in time undertaken any studies to make estimates. I think it is important that that be known. It will be important to tie it in with something earlier so that we can compare. It won't be an easy job.

I think it is one that is worth doing.

Mr. **Cox**. I have a brief addendum to my earlier request synthesizing the comments of a fellow Minnesotan. I grew up in Minnesota by the way, too. Congressman Stangeland and Congressman Parker were talking about consensus.

We have competing concerns here. I think it is a tremendous idea to amend the DEO to get an interagency task force.

You might ask, when you are asking about scheduling this meeting, whether there might be an opportunity to bring into the mix at the Federal executive level or Executive Branch departments like the Department of Energy, Department of Transportation, the Commerce in addition to NOAA. Do that at the national government level to make sure we don't compartmentalize concerns.

Mr. NOWAK. Let me take back the time now and, first of all, thank our witnesses. They have represented their agencies well in preparing this testimony.

We have, we have additional questions which we will submit in writing to the respective agencies.

[The questions submitted by Mr. Stangeland to the Departments of Agriculture and Interior and responses follow:]

United States
Department of
Agriculture

Soil
Conservation
Service

P.O. Box 2890
Washington, D.C.
20013

10 MAY 1989

Honorable Arlan Stangeland
House of Representatives
Washington, D.C. 20515

Dear Congressman Stangeland:

This is in response to your April 21, 1989 letter which enclosed some additional questions regarding the wetlands hearing of April 18, 1989.

We appreciate the opportunity to provide the enclosed written answers to those questions.

Sincerely,

WILSON SCALING
Chief

Enclosure

The Soil Conservation Service
is an agency of the
Department of Agriculture

Wilson Scaling's Response to Wetland Questions
Submitted by Congressman Stangeland

Question: We have heard that the 1985 Farm Bill has slowed the rate of land conversion from wetlands to agricultural use. Do you have any quantitative information that would be helpful in giving some indication as to how much this rate of conversion has changed since implementation of the Swampbuster provisions?

Answer: The Soil conservation Service (SCS) does not have quantitative information that shows the effect that the Farm Bill has had on drainage rates. Prior to the Farm Bill, much of the drainage installed by farmers was done without any federal assistance. As a result, we do not have any data to establish a comparative "before the Act" rate of drainage.

Question: What percentage of the agricultural land in the United States has been or is currently affected by the Swampbusters provisions?

Answer: Swampbuster provisions will impact an estimated 5 million acres. This is less than 1 percent of the agricultural land.

Question: We hear some comments that Swampbuster is not strong enough because it only covers drained wetlands if they are used to produce a commodity crop and even then only in the year in which the crop is grown. Others say that Swampbuster is overly restrictive because it applies to all of a farmer's operations even if the actual conversion was relatively small. How do you respond to these criticisms and what changes in the law, if any would you recommend?

Answer: The Swampbuster provisions are tied to participation in certain Department of Agriculture (USDA) programs; thus they only apply in the year in which an agricultural commodity is produced. If there is a violation of the Swampbuster provisions, the violator loses all USDA program benefits on all the lands he or she operates. This is a strong deterrent which helps reduce the acreage of wetland that is converted for the production of agricultural commodities. We believe the present law is a good one from the standpoint of agricultural policy. Therefore, we do not have any recommendations for change.

Question Section 404 of the Clean Water Act provides some exemptions for normal farming operations. Presumably, maintenance of an existing drainage ditch could well be considered as a normal farming operation. How does your agency differentiate between "maintenance" and "new construction" when applied to drainage ditches?

Answer: New construction as it relates to drainage activities means installing works of improvement for drainage where there was no previous drainage. Maintenance applies in any situation where a drainage work of improvement was installed prior to the enactment of the Farm Bill. Maintenance under the Farm Bill is determined by the scope and effect of the original drainage. Any drainage that does not increase the original scope and effect is permissible as a maintenance operation.

Question: In the maintenance of drainage ditches, how does your agency treat areas that still exhibit wetland characteristics?

Answer: Maintenance to the scope and effect of the drainage that existed prior to the enactment of the Farm Bill is permitted on farmed wetlands and prior converted wetlands. Potholes, playas, and areas subject to frequent flooding or ponding are always classified as wetlands, if they still exhibit wetland characteristics, even though drainage was installed prior to the Farm Bill. However, even in this case, any drainage that existed prior to the Act may be maintained to the pre-Act level of drainage.

Question: We have heard that the recently completed wetlands delineation manual may not solve all of the definitional problems because the various agencies have specific laws to administer and each is unique. What has been your experience with the manual to date and to what extent do you envision that it will accomplish the goal of all agencies using the same definition of wetlands?

Answer: We believe that all the federal agencies that have wetland responsibilities will use the wetland criteria contained in the wetland delineation manual. This means that wetlands will be uniformly identified by these federal agencies. However, how these wetlands are treated after identification will depend upon the applicable federal law. For example, the Swampbuster provision of the Farm Bill provides an exemption for prior converted wetlands while other federal wetland laws do not recognize this exemption. Agreement on the wetland definition criteria is a big step forward in obtaining a more consistent federal wetland policy.

Question: Has your agency had any experience with artificially created wetlands either as mitigation or as new wetlands use? If so, we would be interested in any information you might have regarding this. Restoration and creation hold great promise for our effort to have "no net loss" of wetlands and ultimately an increase in our wetlands base. Please comment.

Answer: SCS has had experience with mitigation under the Watershed Protection and Flood Prevention Program. Under that program, we have replaced existing wetlands that were in the path of construction activities by creating wetlands of equal value at a different location. This has worked well in terms of wetland replacement but is time consuming and expensive. Restoration would be an effective means of achieving the President's policy of no net wetland loss. If wetlands are converted under the Swampbuster provisions, a person can regain USDA program benefits after the year of initial violation by simply not planting a commodity crop on the area. This does nothing for a policy of no net wetland loss. A policy of restoration in lieu of the loss of program benefits would better help achieve a policy of no net wetland loss. We presently will permit a person to restore wetlands after the initial violation in order to regain program benefits under our minimal effect determination.

Question: Your testimony notes that in the implementation of the Small Watershed program, it would be more efficient to obtain the 404 permit concurrently with the development and review of the environmental impact statement. You note that now, the process is to wait until immediately prior to installation of the structure and sometimes additional studies may be required and often suggestions are made for complete project reformulation and renegotiating mitigation plans. Have you had any success in trying to implement this suggestion?

Answer: Discussions have been ongoing, but no agreement has been reached.

Question: You note in your testimony a restriction on technical assistance for drainage work since the late 1970's. Is this a requirement of the law or an internal administrative procedure?

Answer: The restriction on technical assistance for drainage work since the 1970's was the result of the National Environmental Policy Act and a USDA policy decision.

Question: The Conservation Forum Report recommends the establishment of agricultural preservation trusts as a means for wetland preservation and enhancement. Please give your thoughts on this concept on meeting the President's goal of "no net loss."

Answer: A program that provides tax incentives to individuals who place a permanent conservation easement on wetlands would be helpful in achieving a policy of no net wetland loss. It would especially be important in helping to protect significant wetlands, but the issues of permitted uses and who pays the property tax, if any, would need to be resolved.

Question: In your testimony you mentioned two programs, the Conservation Reserve Program and the Water Bank Program as being instrumental in wetland activities. Which of these program has been more successful in preserving wetlands?

Answer: To date, the Water Bank Program has been more effective because it has been in operation since 1971. The Conservation Reserve Program has only accepted farmed wetlands during the eighth sign-up period, which began this year.

Question: You mentioned a program of completing an inventory of wetlands in the Red River Valley. How has this program helped the farmers in northwestern Minnesota?

Answer: The wetland inventories allow SCS field staff to make wetland determinations in a consistent and timely manner. Farmers cannot always identify all the land that meets the wetland definition. The inventory allows us to identify wetlands before farmers inadvertently convert some areas. Secondly, the availability of an inventory lets the public know where the wetlands occur in a given locality. Farmers are less likely to deliberately drain known wetlands.

Question: Could you compare the definition of wetlands used by your agency in compiling your wetlands inventories, mentioned in your testimony, with the definition which is the basis of the recently approved Wetlands Delineation Manual? Also, please compare the wetlands identification on mapping you are currently doing with the process employed by the Department of the Interior in their National Wetlands Inventory?

Answer: The definition used for purposes of the wetland inventory is identical to the definition contained in the Wetland Delineation Manual, except for the break point for hydrophytic vegetation as determined by transect. We presently use a prevalence index of 3.0. After June 1, 1989 this index will be increased to 4.0 as a result of the Interagency Wetland Agreement.

To date we have rarely had to use a vegetative transect to make wetland determinations for swampbuster. Usually, the presence of hydrophytic vegetation is very evident.

The major difference between the SCS wetland inventory procedure and the Department of the Interior (USDI) wetland inventory is that SCS looks at several years of wetland use by reviewing previous aerial photography. USDI uses only one year of photography. Otherwise, the criteria used is very similar.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
WASHINGTON, D.C. 20240

ADDRESS ONLY THE DIRECTOR,
FISH AND WILDLIFE SERVICE

In Reply Refer To:
FWS/EHC/F9-2060

AUG 1 1989

Honorable Arlan Stangeland
House of Representatives
Washington, D.C. 20515

Dear Mr. Stangeland:

In response to your April 21 letter forwarding a list of questions concerning wetlands conservation efforts, I am pleased to provide the enclosed information. Let me know if I can be of any further assistance.

Sincerely,

Richard N. Smith

Acting
Deputy
Director

Enclosure

Apr 18, 1989
Wetlands
Hearing

ANSWERS TO QUESTIONS SUBMITTED BY CONGRESSMAN ARLAN STANGELAND CONCERNING WETLANDS CONSERVATION

Question: A large percentage of the remaining wetlands in the United States are privately owned--probably 70 to 80 percent or so. We need to recognize that this ownership represents private property rights and the protection of these remaining wetlands will require the development of incentives to protect these rights and building partnerships between public officials and property owners. Could you elaborate on your program to restore drained wetlands on or adjacent to conservation reserve tracts? How much funding is available under this program? Is it possible to make this a large-scale national effort?

Answer: Fish and Wildlife Service (Service) biologists working on national wildlife refuges have the wetland management, construction, and contracting expertise and, in some cases, the construction equipment needed to restore wetlands on or adjacent to conservation reserve tracts. These biologists work directly with private landowners and Department of Agriculture field offices throughout the country to restore wetlands. In fiscal year 1987, Service biologists helped to restore approximately 2,000 acres of wetlands and associated habitats primarily on or adjacent to conservation reserve tracts. In fiscal year 1988, the Service used $1.2 million from the Farm Bill add-on to protect and restore approximately 16,000 acres of wetlands, primarily in the Prairie Pothole Region and lower Mississippi Valley. Approximately 50 percent of these were restored under Farmers Home Administration (Farmers Home) programs. The remaining acreage was restored under the Conservation Reserve Program. For fiscal year 1989, the Service is using an additional $1.7 million from a congressional add-on to restore a projected 20,000 acres of wetlands. Wetland restoration efforts for this fiscal year will be divided between Farmers Home and Conservation Reserve Programs. The Service will continue to give priority to restoration efforts on Farmers Home lands and to CRP wetlands that can be expected to result in a long-term land use change.

The Service's wetlands restoration effort is now a national program; however, action is being taken on only a few areas relative to the wetlands that could be restored. Now that cropped wetlands are eligible for inclusion in the Conservation Reserve Program, the Service estimates that over 4 million acres of the wettest cropland will be entered in the Conservation Reserve Program by 1990. Based on past experience, there will be restoration opportunities on at least half of this 4 million acres. Every opportunity to restore these areas within existing funding allocations will be identified and implemented. Increased funding, however, could provide additional incentives and increase landowner program interest and participation in wetlands restoration activities.

Question: We understand that one of the Swampbuster provisions is to enable the Fish and Wildlife Service an opportunity to take over some of the land which has reverted back to the Government because of default on a Farmers Home Administration loan. How many wetland acres have been affected by this and how are these areas administered?

Answer: The Swampbuster provision of the 1985 Farm Bill does not enable the Federal agencies to take over private property. It does discourage the conversion of wetlands to agricultural production. Under this provision any person who produces an agricultural commodity on wetlands that are converted after December 23, 1985, becomes ineligible for most Federal farm programs including loans, subsidies, crop insurance, and price support programs. However, Sections 1314 (Conservation Easements) and 1318 (Debt Restructure Conservation Set-aside) of the 1985 Farm Bill do provide for the establishment and/or sale of conservation easements resulting from debt relief considerations on inventory lands held by Farmers Home or by the indebted farmer, respectively. In addition, Farmers Home is establishing conservation easements on inventory farms under the authority of Executive Order 11990, Protection of Wetlands, and Executive Order 11988, Floodplain Management.

The actual ownership transfer of Farmers Home Inventory Lands to the Service or another Federal or State agency for conservation purposes is authorized by Section 616 of the Farm Credit Act of 1987 and not by the 1985 Farm Bill. Transfers occur if the Secretary of Agriculture determines that the property is suitable or surplus and has marginal value for agricultural production, is environmentally sensitive, or has special management importance.

Over the past 2 years, the Service has reviewed over 1.5 million acres of Farmers Home inventory property. Approximately 100,000 to 150,000 acres of wetlands have been recommended by the Service for protection with conservation easements. If a conservation easement is established, the Service also assists in monitoring and managing the easement area. These wetland conservation easement areas are administered under the National Wildlife Refuge System Administration Act.

Question: We hear some comments that Swampbuster is not strong enough because it only covers drained wetlands if they are used to produce a commodity crop and even then only in the year in which the crop is grown. Others say that Swampbuster is overly restrictive because it applies to all of a farmer's operations even if the actual conversion was relatively small. How do you respond to these criticisms and what changes in the law, if any, would you recommend?

Answer: Currently, Swampbuster allows for conversion of wetlands as long as agricultural commodity crops subsidized with Federal funds are not produced on the converted wetlands. Farmers may still participate and receive Federal funds for other croplands, even if wetlands were drained on other portions of the farm, as long as commodity crops are not produced on the converted wetlands. This has been a principal point of criticism of Swampbuster by conservationists.

To date, a relatively small number of farmers have been denied Federal subsidy payments because of Swampbuster violations. Through February 1989, 345 farmers had been determined ineligible for Federal benefits because of Swampbuster violations; however, 206 farmers who appealed their cases received relief and continue to receive their benefits. Only 71 farmers continue to be ineligible to receive Federal subsidy payments. Some may still appeal their cases. In actuality, less than $400,000 have been withheld for the 1988 and 1989 crop years. Thus, it would seem that Swampbuster has not been overly restrictive.

Although the Service has no recent quantitative data, reports from field personnel indicate that wetlands drainage continues. For example, in North Dakota there have been no reports of Swampbuster violations, but 30,000-40,000 acres of agricultural wetlands have been drained since the enactment of the State's "no net loss" legislation in 1986. Again, there is little evidence that Swampbuster has been overly restrictive.

Regarding proposed changes the Service would recommend in the legislation, we anticipate that the interagency task force to be established under the Domestic Policy Council will examine existing laws and regulations and make any proposals for needed changes.

Question: The Wetlands Policy Forum's Report recommends that Congress consider wetlands protection legislation generally modeled on the Coastal Barriers Resources Act (COBRA) to restrict Federal support for activities in particularly valuable wetland areas. The approach would not only help to protect valuable wetlands but would also help balance the budget by reducing Federal spending. It is my understanding that Interior explored this option a number of years ago but the legislation failed to make much headway.

- o Could you tell the Committee what ever became of the proposal and what obstacles it encountered?
- o How well is COBRA working? How easily could we apply it to wetlands not located on coastal barriers while keeping in mind the needs for public works and development?

Answer: This option was explored when the Department of the Interior (Department) began a study mandated by the Emergency Wetlands Resources Act of 1986 on the impact of Federal programs on wetlands. At that time, there was the perception that the study would result in a recommendation for legislation following the COBRA concept. Before the study was completed, however, Congress enacted the Food Security Act of 1985 (Swampbuster), the Tax Reform Act of 1986, and the Water Resources Development Act of 1986. These laws have the potential to adequately protect wetlands if they are rigorously enforced and amended as needed. The Secretary of the Interior's report to Congress entitled "The Impact of Federal Programs on Wetlands" (Volume I, October 1988) contains additional recommendations which, if implemented, would obviate the need for legislation based on COBRA.

One of the obstacles encountered when considering legislation similar to COBRA was determining what large, discrete areas would be covered under the jurisdiction of the legislation. Another obstacle was identifying what categories of Federal support and subsidies could be included that were not already included under some other wetlands protection legislation.

COBRA is working well. Although the concept could be applied to wetlands not located on coastal barriers, it probably is not feasible to implement such legislation for several reasons. First, this wetlands protection concept is already addressed by other legislation restricting Federal support, such as the Food Security Act. Second, loss of wetlands is also addressed by regulatory legislation, such as the Clean Water Act. Third, because most of the pressure for development in wetlands comes from private developers without Federal assistance, the threat of withdrawal of Federal support and subsidies would not deter wetlands destruction. Thus, legislation similar to COBRA would address only one aspect of the wetlands loss problem.

Question: Could you describe the level of detail which is used in your mapping of wetlands under the National Wetlands Inventory? Are the maps sufficiently detailed that they can be used by local planning organizations for land use decisions affecting individual property owners? Can you tell us whether the maps have been used in this way and with what result?

Answer: Generally, the minimum mapping size for wetlands on National Wetlands Inventory maps is between 1-3 acres. The minimum size can vary from this range in some regions of the United States due to several factors. For example, wetlands basins as small as one-tenth of an acre can be mapped in the Prairie Pothole Region. In heavily forested regions, some forested wetlands smaller than 3 acres may not be discernible from surrounding upland forest due to their similar appearance on aerial photos.

The National Wetlands Inventory maps are sufficiently detailed that they can be used for local land use planning efforts. In the 48 conterminous States, the National Wetlands Inventory maps are at a scale of 1:24,000 (1 inch = 2,000 feet); in Alaska, the scale of the base maps is 1:63,360 (1 inch = 5,280 feet). There are over 60 documented uses of National Wetlands Inventory maps. A partial list is included as Attachment A. However, the scale of the maps precludes their use for tax purposes or identification of regulatory boundaries without ground verification. Taxing authorities and regulators that use maps without ground verification generally rely on maps of a much larger scale for land use decisions affecting individual property owners.

Question: Could you compare the definition of wetlands used by your agency in compiling the National Wetlands Inventory with the definition contained in the recently approved Wetlands Delineation Manual? Also, please compare the wetlands mapping you are currently doing with the process employed by the Department of Agriculture in compiling their wetlands inventories.

Answer: The recently approved Wetlands Delineation Manual does not recognize a single wetlands definition as the basis for the delineation techniques. The manual lists the following three definitions: (1) the regulatory definition used by the Environmental Protection Agency and the Army Corps of Engineers, (2) the definition from the Food Security Act of 1985 that is used by the Soil Conservation Service, and (3) the Fish and Wildlife Service's wetlands definition used in the mapping of wetlands under the National Wetlands Inventory. The Army Corps of Engineers, Environmental Protection Agency, and Soil Conservation Service wetlands definitions include only areas that are vegetated under normal circumstances, while the Fish and Wildlife Service definition encompasses both vegetated and nonvegetated areas. Except for this difference and the exemption for wetlands underlain by permafrost in Alaska in the Soil Conservation Service's definition, all four wetlands definitions are conceptually the same. Each includes three basic elements--hydrology, vegetation, and soils--for identifying wetlands. The manual was developed to identify and delineate jurisdictional wetlands, all of which are vegetated. All the definitions handle vegetated wetlands the same way, thus allowing the development of a single Federal wetlands identification and delineation manual.

The wetlands mapping conducted by the National Wetlands Inventory and the mapping performed by the Department of Agriculture are done for entirely different purposes. The Department of Agriculture maps are produced for monitoring and enforcing Swampbuster compliance. Existing wetlands are identified on the maps according to the following categories: (1) wetlands, (2) farmed wetlands, (3) artificial wetlands, and (4) minimum effect wetlands (i.e., a minimum effect exemption has been granted). Wetlands that have been converted to a non-wetlands status are separated into two categories--prior converted wetlands and converted wetlands, depending on when the conversion took place in relation to the 1985 enactment date of the Food Security Act.

The National Wetlands Inventory products are designed for many uses (see Attachment A). These uses are possible partly because of the detailed hierarchial classification system that describes the vegetation, soil, and hydrology of each wetlands basin. An average National Wetlands Inventory map has between 40 to 60 different wetlands codes used to distinguish the wetlands types.

One goal of the National Wetlands Inventory is to disseminate information to as many users as possible. To date, over 879,800 copies of the wetlands maps have been distributed through the Service's and the U.S. Geological Survey's map distribution facilities. This number does not include the secondary distribution through the 23 State-run distribution centers. The Department of Agriculture maps are designed primarily for internal office use. It was not intended for them to be distributed to other agencies or private users for planning, regulatory, or research purposes.

An additional difference between the mapping projects is the extent of coverage. The Department of Agriculture's maps will eventually cover the agricultural regions of the United States, or approximately one-third of the land area. The 1986 Emergency Wetlands Resources Act mandates that the National Wetlands Inventory maps cover the entire 48 conterminous United States and Hawaii by 1998, and Alaska as soon as practicable thereafter.

The National Wetlands Inventory currently has produced maps for 55 percent of the 48 conterminous United States, 18 percent of Alaska, and 100 percent of Hawaii. The Department of Agriculture is using the National Wetlands Inventory maps to assist in defining the wetland/upland boundary lines on their maps. All draft and final wetlands maps produced by the Fish and Wildlife Service have been sent to the Soil Conservation Service field offices. These shipments will continue until final wetlands maps have been produced for the entire country. The wetland/upland boundary lines are transferred from the National Wetlands Inventory maps to the photographic base maps used by the Department of Agriculture.

Attachment A

Uses of National Wetlands Inventory Maps

The National Wetlands Inventory maps are being used for various activities in the planning, analysis, regulation, protection, and development of wetlands. Other special uses include recreation, education, and research. The following is a partial list of general use categories for these maps and the user groups associated with each category.

Fish and Wildlife Habitat Uses

Uses	User Group
Baseline Wetland Data	Universities; Federal & State Resource Managers
Environmental Assessments	Consultants; Federal & State Agencies
Habitat Characterization	Federal & State Agencies
Wildlife Habitat Evaluation	Federal & State Agencies
Species Management (game)	State Agencies
Threatened/Endangered Species Program	Federal & State Agencies
Research	Universities; Federal Agencies
Critical Areas/Sensitive Programs	State Agencies; Municipalities
North American Waterfowl Plan	Department of the Interior
Inventory and Monitoring	Federal & State Agencies

Environmental Quality Uses

Uses	User Group
Water Supply/Water Quality	Federal & State Agencies
Environmental Contaminants	Federal & State Agencies; Consultants
Solid Waste Disposal	Federal & State Agencies
Watershed/Land Use Planning	State & Local Planners
Federal Water Development	Federal Agencies
State Water Development	State Agencies
Agricultural Development	Federal & State Agencies
Urban Development	Municipalities & County Planners
Flood Control/Flood Plain	Federal & State Agencies; Municipal Governments
Sanitary Sewers, Lagoons	Municipalities & County Planners
Mosquito Control	Consultants; State Agencies

Social and Economic Uses

Uses	User Group
Natural/Scenic Programs	State Resource Agencies
Energy Development	Federal & State Agencies
Reference	Libraries; Federal, State & Private Organizations
Hunting & Fishing	Sportsmen and Conservation Organizations
Recreational	Private Organizations
Real Estate	Private Individuals & Consultants
Zoning & Ordinances	Municipalities & Consultants

Regulatory - Legislative

Uses	User Group
Permitting Activities	Federal & State Agencies
Unsuitability Criteria	Federal & State Agencies
State/Local Wetlands Legislation	State & Local Governments
Federal Wetlands Legislation	Federal Agencies, Congressional Interests
Wetlands Acquisition - Federal/State	Federal & State Agencies
Coastal Zone Management Requirements	Federal & State Agencies
Flood Maps	Federal Emergency Management Agency; Municipalities; Insurance Industry
Wetlands Identification - Swampbuster	Federal Agencies; Private landowners
Mitigation	Federal & State Agencies; Consultants

Mr. NOWAK. As you can tell, the general thrust of, I think, the hearing and what we are trying to do is find a way to reverse the loss of the wetlands.

We have to admit there is a problem to start with, and then look at how this can be coordinated. Of course, the programs that are out there, through bits and pieces of your testimony have shown there is some lack of coordination.

There are some questions as to what overall is happening. Hopefully, the interagency task force along with the Conservation Foundation's recommendations will lead us into a better balanced area where some of this, as you have heard, diversity that is out there can be addressed. It is very difficult to write a universal law that is going to cover all of those aspects.

We have had Mr. Stangeland and Mr. Parker talking about their particular problems. We have to find a way to address those and yet have a universal approach to the problem so that all the agencies can start once again to increase the total amount of wetlands available.

We thank you for your technical leadership and input into the process so you can play a role in developing this legislation.

[Whereupon, at 1:20 p.m., the committee recessed.]

[The prepared statements of Mr. Morgenweck, Mr. Evans, and Mr. Gray (on behalf of Wilson Scaling) follow:]

TESTIMONY OF DR. RALPH MORGENWECK, ASSISTANT DIRECTOR FOR FISH AND WILDLIFE ENHANCEMENT, U.S. FISH AND WILDLIFE SERVICE, DEPARTMENT OF THE INTERIOR, BEFORE THE SUBCOMMITTEE ON WATER RESOURCES, COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION, U.S. HOUSE OF REPRESENTATIVES, CONCERNING WETLAND CONSERVATION

April 18, 1989

Mr. Chairman and Subcommittee Members, I appreciate this opportunity to discuss the wetland conservation activities of the U.S. Fish and Wildlife Service (Service). The committee should be commended for recognizing the importance of wetland resources and for taking the initiative to conduct this oversight hearing. Right now, nothing is more exciting to the Service than the prospect of a national commitment to strengthen our sense of stewardship for wetland resources.

This morning, I would like to highlight some of the things the Service is doing to protect, manage, restore, and enhance wetlands. In addition, as indicated in the President's February 9 budget plan, an inter-agency wetlands task force is being established under the auspices of the Domestic Policy Council. The objective of the task force will be to work toward "no net loss of wetlands" as a national goal.

The basic theme of this Presidential initiative is to strengthen existing programs and regulations that protect, maintain, and restore wetlands. We anticipate that the first priority of the task force will be to review the existing executive order on wetlands protection which was issued in 1977, as well as existing law and regulations.

The Administration is in the process of establishing the task force, and we expect that this group will be at work in the very near future. Until the task force has had an opportunity to review the recommendations of the Conservation Foundation's National Wetlands Policy Forum, the Administration will not comment specifically on those recommendations. Many of the Service's ongoing wetland activities, however, relate to items discussed in the Forum report. The description of our programs, therefore, will highlight areas which the task force will be reviewing.

Wetland Loss

The rate of wetland loss in the United States has reached significant proportions. You have probably seen the statistics on these losses: our nation has already lost well over half of the 215 million acres of wetlands we believe existed in the contiguous U.S. at the time of European settlement.

As highlighted in the Secretary of the Interior's December, 1988 report to Congress on "The Impact of Federal Programs on Wetlands," the Federal Government needs to accept its share of the responsibility for many of these losses up to this point in time. There has been no national policy to ensure consistency among all Federal programs with regard to wetland conservation. As a result, many of these programs have not fully considered the functions and values of wetlands. Other programs still encourage wetland drainage and conversion. Several of the recommendations in the Interior report which relate to Federal programs have been endorsed in the Forum Report. Although the Administration has not yet taken a position on the Secretary's 1988 report, its recommendations will be closely reviewed and assessed by the interagency task force.

The Service is pleased that President Bush has indicated his support for "no net loss of wetlands" as a national goal. As a Nation and as a government, we can achieve the balance that would be required by this policy. If you think about wetland conservation in terms of a ledger-sheet account, our annual losses, or outlays, and our gains, or income, range from 20-25 thousand acres. Each year, almost twenty times more wetlands are destroyed than are restored or created. To achieve the goal of no net loss, therefore, we must cut our losses and, more importantly, increase our gains.

Service Wetland Activities

The Service has had a broad and long-standing commitment to wetlands protection, management, restoration and enhancement. As evidence of this commitment, I offer the following examples of current activities related to wetland resources.

National Wetlands Inventory -- The Service, in cooperation with State and Federal agencies, is mapping our wetland resources nationally. Approximately 60 percent of the lower 48 states, 16 percent of Alaska, and all of Hawaii have been mapped since 1979. The lower 48 states will be completely mapped by 1998 and Alaska will be completed as soon as practicable thereafter.

In 1983, the Service completed the first comprehensive and statistically valid estimate of the current national wetland acreage and the rate of wetland loss from the 1950's to the 1970's. Information from this status and trends report has been widely used in a number of major wetland reports, including the Forum Report. The Service will update the status and trends report in 1990 and every 10 years thereafter. The status and trends reports, when combined with the national wetland maps, could be used to help determine the success of a policy goal of no net losses of wetlands.

Educational Programs -- The Service believes that educational programs will be essential if our goal is to eliminate net losses of wetlands resources. We already have several programs that emphasize public education about wetland values. For example: twenty-three state-run locations across the country distribute maps developed by the National Wetlands Inventory; the Service has cooperated with the Environmental Protection Agency to develop brochures and pamphlets that inform the public about wetland values; and a video developed through the Service's Farm Bill program, which informs farmers about wetland values, has been adapted for media use. The Service plans on continuing its efforts to educate the public about the values of our Nation's wetlands resources.

National Wildlife Refuge System -- The Service manages over 34 million acres of wetlands in our refuge system, including 5 million acres in the conterminous U.S. These areas were established principally for the protection of migratory birds and endangered and threatened species. The Service has been in the wetland restoration business for many years on our refuges. The efforts which we have undertaken would be applicable on a broader scale to development of a national wetlands restoration program.

North American Waterfowl Management Plan -- The Service is implementing the North American Waterfowl Management Plan, an agreement signed by Canada and the United States, that relies on wetland habitat protection, restoration, and enhancement to restore the continent's waterfowl populations to the numbers that had occurred in the early 1970's. Drought and the draining of low-lying land for agriculture and other development contributed to a drop in the continent's fall flight of waterfowl from an average of 100 million ducks in 1970-79 to a projected 66 million in 1988, the second lowest on record.

Major components of the Plan include: (1) establishment of population goals for ducks, geese and swans to be met by the year 2000 and of habitat protection goals for the U.S. and Canada; (2) recommended joint ventures between private and public entities to attain these goals; (3) research and development of surveys and data bases; and (4) listing of approaches to protect and manage wetlands. This Plan has targeted more than five million acres of key waterfowl habitat for protection in the U.S. and Canada. The Plan calls for methods such as acquiring critical areas, providing incentives to private owners for restoration of wetlands, and improving habitat on existing wildlife refuges, military bases, and other public lands.

Six major joint ventures, including public and private entities, are in advanced planning and implementation stages across the U.S. Based on the Plan, funds will be spent to improve habitat in every region of the U.S. under arrangements that will include both outright purchases and arrangements for temporary or long-term use of wetlands.

During March of this year, an agreement was signed between the Service and the Department of the Army to conserve and improve wetlands on more than 9 million acres managed by the Army Corps of Engineers. The properties include wetlands in navigation and flood control projects, many of which are important waterfowl habitat.

A major provision of the agreement is that the Corps and the Service will exchange information outlining civil works projects within the boundaries of the Plan's six joint ventures. The Corps will describe current waterfowl management activities, seasonal waterfowl use, and the potential for increasing benefits to wildlife. The Service, in turn, will brief the Corps on national, regional, and local objectives and identify opportunities for improvements. After this information is shared, the two agencies will determine how Plan activities and goals relate to present and future Corps projects. Objectives of the Plan will be considered in the conception, engineering, design, and construction phases of Corps civil works projects. The agreement is effective for three years.

International Treaties -- The Service has primary responsibility for implementing a number of international treaties and conventions dealing with conservation of migratory birds. The Service is the lead agency representing the U.S. under the Convention on Wetlands of International Importance (RAMSAR) and has nominated seven sites for designation as wetlands of international importance.

Land Acquisition/National Wetlands Priority Conservation Plan -- The Service has a continuing land acquisition program that is authorized by the Migratory Bird Conservation Act, Endangered Species Act, Fish and Wildlife Act of 1956, and Fish and Wildlife Coordination Act. Funding for land acquisition is authorized by the Migratory Bird Hunting and Conservation Stamp (also known as the Duck Stamp) Act, Wetlands Loan Act, and Land and Water Conservation Fund Act (LWCF).

Acquisition of wetlands that have particular social, ecological, or biological values or management importance will continue. During FY 1988, the Service acquired 65,846 acres by obligating $31.7 million from the Migratory Bird Conservation Fund, and, to date, has obligated $8.5 million to acquire 2700 acres of wetlands during FY 1989. However, the Service recognizes that it will never be feasible or desirable for the Federal government to acquire all wetlands, and thus it is necessary that Federal acquisition efforts be complemented by other public or private acquisition programs as well as regulatory and conservation incentive programs.

The Service has been involved in attempting to make certain that public dollars are used wisely when wetlands are acquired. This year, as directed by the 1986 Emergency Wetlands Resources Act, we completed the National Wetlands Priority Conservation Plan which provides general direction and guidance from the national level that can be used to identify wetlands that should have priority for acquisition.

Impact of Federal Programs on Wetlands -- The Service has been involved in assessing the issue of wetland losses resulting from government programs. The Service has been working with the Department's Office of Program Analysis to prepare reports to Congress, as required by the 1986 Emergency Wetlands Resources Act, that address this issue and include recommendations for making these programs more compatible with wetlands protection. The Secretary of the Interior submitted volume I to Congress on December 13, 1988. This report addressed wetlands losses due to Federal programs in the Lower Mississippi Alluvial Plain and Prairie Pothole Region. Volume II which addresses other problem areas throughout the United States, is being revised for upcoming agency review.

Research Activities -- The Service maintains a National Wetlands Research Center in Slidell, Louisiana, to study and report on wetlands. Wetlands or wetland-related research also occurs at the Service's research facilities located in Northern Prairie, North Dakota; Fort Collins, Colorado; and Patuxent, Maryland. Research covers a broad range of wetland issues, including Louisiana coastal wetland loss studies, development of restoration methods, geographic information system development, waterfowl research, and coastal barrier island assessment.

Contaminant Analysis -- Over 90 percent of the Service's environmental contaminant work deals with wetlands. Our work centers on determining the potential for harm to fish and wildlife species from contaminants that have assimilated into wetlands. Non-point sources such as agricultural and urban runoff, mine waste leaching and pesticide use, as well as irrigation drainage are major concerns. The major contaminants that appear to be problems are heavy metals, industrial pollutants, and agricultural chemicals.

Endangered Species -- More than one-third of the nation's threatened and endangered plant species and one-half of the animal species are wetland-dependent. In our efforts to protect and recover various of these species, the Service has acquired wetland habitats critical to their survival.

Federal Grants -- The Service administers Federal Aid funding to the States and territories for sport fish and wildlife restoration activities that include many wetland conservation elements.

Permit Review -- The Service is one of the primary advisors to the U. S. Army Corps of Engineers (Corps) and the Environmental Protection Agency on matters relating to the Clean Water Act's Section 404 permit program, which regulates the discharge of fill material into waters of the U.S. The Service reviews approximately 10,000 individual public notices each year. Many of our recommendations on these public notices are intended to protect wetland resources. As part of the consultation process, the Service provides recommendations to the Corps to mitigate wetlands-related impacts.

Water Projects -- The Service also provides technical assistance to the Corps on Federal water projects. In this role, the Service assesses the effects of various development projects on fish and wildlife resources and recommends measures to protect those resources. Wetlands have been a central focus of this effort.

Provisions of the 1986 Water Resources Development Act regarding protection, mitigation, and enhancement of wetlands associated with civil works projects increase our role as technical advisors to the Corps. These provisions were some of the most progressive legislative steps ever taken for wetland conservation and were highlighted by President Bush, in his February 9 budget plan. The Service looks forward to the day when these conservation measures are implemented and will work with the Corps to achieve wetland creation and restoration throughout the United States.

Wetland Delineation -- The Service, Corps of Engineers (Corps), Environmental Protection Agency (EPA), and the Soil Conservation Service (SCS) all define wetlands based on the same three basic elements: hydrology, vegetation, and soils. Under normal circumstances, the Corps, EPA, and SCS wetlands definitions include only areas that are vegetated, while the Service's definition encompasses both vegetated and nonvegetated areas.

Las year, we began working with the Corps, EPA, and SCS to develop a way to consistently identify vegetated wetlands for jurisdictional determinations. On January 10, 1989, the Service, EPA, Corps, and SCS signed a joint "Federal Manual for Identifying and Delineating Jurisdictional Wetlands." This manual reconciles interagency differences regarding vegetated wetlands and will lead to more uniform, consistent and rapid wetland delineation determinations.

Farm Bill -- The Service is actively working with the Department of Agriculture and American farmers through our Farm Bill program. We provide technical assistance to the Soil Conservation Service and the Agricultural Stabilization and Conservation Service on matters relating to wetland identification and on exemptions to the Swampbuster provisions of the Food Security Act.

Through a Memorandum of Understanding, the Service also provides technical assistance to the Farmers Home Administration by identifying environmental resources such as wetlands on inventory land, by serving as wetland easement managers, by participating on review teams for conservation easements in exchange for debt forgiveness, by reviewing loan applications, and by recommending protective measures for inventory properties.

Through our Farm Bill program, the Service has initiated a wetland restoration program. Nearly 16,000 acres of wetlands were restored in 1988 and a restoration goal of 20,000 acres has been set for 1989. We are proud of these efforts. Restoring wetlands that have been converted to agricultural use is often cost-effective and highly successful compared to other types of wetland restoration. It also addresses many contemporary conservation issues, including soil erosion, ground water recharge, surface and ground water quality, safe and adequate water supply, stabilization of both flood and drought cycles, and fish and wildlife habitat, as well as recreation. For these reasons, the Service views the restoration of wetlands converted to agriculture use as an important priority.

As my testimony indicates, virtually every aspect of the Service's work touches upon wetlands. Within our agency, a broad array of programs carry out wetland protection, management, restoration, and enhancement.

Mr. Chairman, I appreciate the opportunity to address the Subcommittee on this important issue, and I will be pleased to answer any questions you may have.

STATEMENT OF

DR. WILLIAM E. EVANS
UNDER SECRETARY FOR OCEANS AND ATMOSPHERE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

BEFORE THE

SUBCOMMITTEE ON WATER RESOURCES
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION
U.S. HOUSE OF REPRESENTATIVES

April 18, 1989

Mr. Chairman and Members of the Subcommittee:

Thank you for the opportunity to appear before you today to discuss wetland programs of the National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce, and the recommendations of the National Wetlands Policy Forum.

I would like to take the opportunity today to congratulate the National Wetlands Policy Forum on a job well done and to add that NOAA has been pleased to participate in the Forum as an ex-officio member. We are continuing to assist the Forum Implementation Committee and have begun NOAA-wide review of our wetland activities to determine the extent to which we are addressing concerns raised by the Forum's consensus process.

NOAA is looking forward to participating on the Domestic Policy Council's task force on wetlands. The President stated that he is committed to the preservation of the Nation's remaining wetlands and to adopt a national goal of "no net loss of wetlands." To accomplish this goal, the Federal Government needs to coordinate wetlands policy where agencies work in concert. President Bush has stated that strengthening existing Federal programs and regulations is required to protect, maintain, and restore wetlands. The Nation must look beyond Federal programs and regulations to encourage wetlands protection.

In the near future, the President will establish an inter-agency wetlands task force under the Domestic Policy Council to work towards no net loss of wetlands as a national goal.

The wetlands inter-agency task force should play a major role in developing and implementing programs that encourage wetlands protection and recovery. The task force should also play a major role in public education that fosters a better understanding of the value of wetlands as a national resource. Until the task force has been established and begins its work, the Administration will not be in a position to comment on or support the specific wetlands recommendations made by the Conservation Foundation's National Wetlands Policy Forum.

As the steward of the Nation's living marine resources, NOAA's National Marine Fisheries Service (NMFS) is responsible for habitat conservation, the management of living marine resources in the U.S. Exclusive Economic Zone, and the protection of certain marine mammals and endangered species. Our habitat conservation responsibilities encompass coastal areas and estuaries, and upstream as far as necessary to protect anadromous species' spawning grounds and impacts reflected upon coastal habitats. In carrying out this responsibility, our efforts are directed at protecting and conserving coastal, estuarine, and riverine wetland areas of the United States.

Estuarine and coastal wetlands provide habitat essential for the maintenance and productivity of the Nation's living marine resources. Approximately 70 percent of commercially and recreationally important fish and shellfish species in the United States spend a critical part of their life in estuarine and nearshore areas. These species, referred to as "estuarine-dependent", include salmon, menhaden, herring, flounder, shrimp, crabs, oysters, and clams. Many inland and riverine wetlands also support anadromous species, such as salmon, striped bass, and sturgeon.

Conservation of these habitats, therefore, is a primary goal of NMFS' Habitat Conservation Program. Habitat conservation activities are carried out nationwide as a part of the overall fisheries research and management program, and are guided by NMFS' Habitat Conservation Policy, which was published in the Federal Register in 1983. The goal of this Policy is to maintain or enhance the capability of the environment to support living marine resources under NMFS' purview. This goal is consistent with President Bush's stated goal of "no net loss" of wetland habitat. In fact, our habitat conservation efforts are not limited to only "wetland" habitats, but encompass all habitats important to living marine resources. Such habitats include, among others, mud flats, mangroves, salt marshes, and tidal algal beds.

NOAA's current goal in analyzing activities that may affect wetlands is to maintain current wetlands, or, as a last resort, replace lost wetlands with those which are ecologically equivalent. We believe this goal is best achieved by avoidance of impacts. If impacts are determined to be unavoidable, efforts should be made to minimize the impacts, restore the affected habitat, reduce the impact over time, or, as a final option, replace the habitat. We believe it should be emphasized that replacement of lost habitat with habitat less capable of supporting the desired marine resources, will still result in a loss of habitat. This position has not been adopted by the Administration and will be taken up by the inter-agency task force review.

NMFS' Habitat Conservation Program has a cadre of world-recognized scientists who are developing the technical basis necessary to establish criteria defining acceptable replacement habitat. Our research activities in the areas of ecological value of various habitat types to fishery resources and habitat restoration and creation include studies of recruitment of larvae into estuaries; utilization of wetland habitat types by fishery organisms; uses of detrital material; evaluation of impacts of freshwater inflow; and synthesis of information on wetland acreage and fishery species life histories.

In 1985, the Corps of Engineers and NOAA signed a Memorandum of Agreement initiating a three-year pilot study to look into the feasibility of a cooperative national program between NOAA and the Corps to restore and create fisheries habitats. The Agreement combined our technical fisheries expertise with the Corps' water resource planning, engineering, and construction expertise and capability. Work done under this Agreement was conducted in conjunction with ongoing Corps projects and involved experimental modifications of project design in an effort to enhance habitat and thereby increase the production and abundance of important coastal species. The pilot study was completed on October 25, 1988. Final recommendations are expected in the near future.

We fully support EPA's earlier testimony that the Federal resource and regulatory agencies must work together to address the complex issues inherent in implementing President Bush's "no net loss" goal. NOAA looks forward to participating in the inter-agency task force on wetlands; revising the Executive Order on wetlands; establishing "no net loss" as a national goal; and coordinating and assessing implementation of the "no net loss" goal.

Under provisions of the Fish and Wildlife Coordination Act (FWCA), NOAA consults with the Federal water resource construction and regulatory agencies and provides technical and scientific advice to protect, manage, and conserve habitats of living marine resources which may be altered by proposed activities. Since the formation of NOAA in 1970, NMFS has provided analyses and recommendations on approximately 150,000 Federal projects or Federally-authorized permit and license applications. In 1987, NMFS evaluated over 7,300 Corps Section 10 and Section 404 permit applications to dredge, fill, or otherwise alter over 39,000 acres of marine and coastal waters and wetlands. We objected to the alteration of 15,500 acres and for those projects, recommended habitat restoration or generation of an additional 8,400 acres of wetland. NMFS did not object to alteration of 23,000 acres which were proposed for routine dredging and intermittent impoundment for management purposes.

Other elements of wetlands research within NOAA are conducted by the Office of Oceanic and Atmospheric Research (OAR). OAR is responsible for developing and carrying out research programs that provide the scientific and technological basis for improving NOAA's services and products. OAR conducts research either through its Environmental Research Laboratories or through grants to universities under the National Sea Grant College Program.

The Great Lakes Environmental Research Laboratory is currently conducting a research effort that is related to wetlands. A core research program at that laboratory is evaluating the potential effects of climate change on the Great Lakes. Models have been run to simulate the rainfall, runoff, and evaporation resulting from three different projected climate scenarios. Model output projects changes in lake levels that could occur with variations in climate. Altered lake levels could directly affect the character and functioning of wetland systems associated with the Great Lakes.

Also within OAR, the NOAA National Sea Grant College Program has directed a wetland program. In FY 1988, Sea Grant wetland-related research totalled approximately $2.3 million (Federal plus matching funds). This included 42 projects conducted in 17 Sea Grant programs. Studies of primary production, nutrient dynamics and trophic dynamics in wetlands accounted for 36 percent of funding. Investigations of habitat dynamics and habitat use accounted for 38 percent of wetland studies, wetland management for 18 percent, and other wetland studies for 8 percent.

Although the management of wetlands is not one of the primary missions of NOAA's National Ocean Service (NOS), this office does provide essential products and services for the successful achievement of this goal in three important areas:

- The accurate monitoring of vertical shoreline motion using precise leveling, very long baseline interferometry (VLBI), the global positioning system (GPS), and the National Water Level Observation Network to measure shoreline movement, coastal erosion, and subsidence-accretion and uplift;
- Nearshore hydrographic coverage in those areas seaward of the changing shoreline to delineate bottom topography at high resolution for the purpose of understanding the causes of changes in shoreline; and
- Historical data from the extensive and unique coastal mapping files in the form of maps and other displays that show the movement of the U.S. shoreline as a function of time since the early 19th century. Enhancement of this existing program is necessary to provide an increased frequency of observation adequate to understand and forecast short-term trends.

An accurate baseline and points of reference are fundamental to wetlands preservation planning. This program coordinated with the National Water Level Observation Network of the Office of Oceanography and Marine Assessment, will enable planners to assess and accurately define the physical damage and economic impact of severe storms, other natural shoreline processes, and human activities, such as construction and coastal development on shoreline erosion and potential destruction of U.S. wetland areas. The first step in gaining the understanding needed for an effective control program in wetlands preservation is to establish an accurate baseline and points of reference.

Similarly, the development of a global absolute sea level network, initiated in 1987 by a pilot program, jointly funded by NOAA (NOS) and the Department of Energy, will allow accurate predictions of the coastal lands, notably wetlands, which may be lost due to global warming. Specifically, the accumulated time series of absolute sea level data being initiated by NOAA will provide a unique set of data for verifying and calibrating complex coupled models of the ocean and atmosphere required to study the dynamics of the global climate system. The data set provides scientists with the information to distinguish the components of relative sea level variations due to vertical land movement component and the global sea level rise component for the coastal ocean. The network uses VLBI, GPS, and Next Generation Water Level Measurement System (NGWLMS) technology to accomplish this.

In 1985, NOS and NMFS began development of the first comprehensive and consistently derived data base of the areal extent and distribution of coastal wetlands in the coterminous United States (excluding the Great Lakes). These data are being developed using a systematic grid sampling procedure on wetland maps produced by the National Wetlands Inventory (NWI) of the FWS. Grid sampled data are entered into the NOS microcomputer-based Geographic Information System for processing and manipulation. Digitized estuary or other study area boundaries can be intersected with grid sampled data to produce acreage summaries and color maps for specific units of interest. A series of atlases and reports have been produced including summaries by estuary and also by coastal county for the Northeast (Maine to Connecticut) and the Gulf Coast (Florida to Texas). Products for the Mid-Atlantic (New York to Virginia) and the West Coast (California to Washington) are scheduled to be completed by the end of this fiscal year. The coastal wetlands inventory is one of several habitat elements in NOS's program to develop a national estuarine assessment capability. These habitat elements will be incorporated into NOAA's National Estuarine Inventory program along with other physical hydrologic, biological and economic information to provide a more comprehensive understanding of estuarine environments. Plans call to include updated wetlands data as they become available.

Three other NOAA programs provide significant capabilities to extend NOAA's science and expertise to other Federal, State, and local management and regulatory agencies. The outreach elements of the Estuarine Program Office (EPO), the Office of Ocean and Coastal Resource Management (OCRM), and the multi-line office CoastWatch programs play prominent roles in the Nation's wetlands information network.

The NOAA Estuarine Programs Office has important responsibilities for intra-agency and extra-agency coordination on estuarine and coastal ocean activities. It is the conduit and liaison for information and technology transfer among the NOAA Line Offices, other Federal and State agencies, and research institutions as well as for the public and industry. Under the terms of the Magnuson Fishery Conservation and Management Act Amendments of 1986, P.L. 99-659, the EPO was established to: (1) develop and implement a national strategy; (2) coordinate internal estuarine activities; (3) coordinate external activities with other Federal and State agencies; (4) provide technical assistance to the NOAA

Administrator through the dissemination and publication of pertinent technical and scientific information.

NOAA cooperates with the U.S. Environmental Protection Agency (EPA) to solidify support for the National Estuary Program (NEP). This cooperation is through NOAA NEP Regional Representatives who are the official NOAA spokespersons for a designated estuary and serve as liaison among NOAA staff, EPO, and regional coordinators. On-site representatives support the NEP, for the Chesapeake Bay Program (at Annapolis) and the Gulf of Mexico Program (at Bay St. Louis). EPO has played an important role in assisting the Chesapeake Bay Program's development of a Chesapeake Bay Wetlands Policy.

The Coastal Zone Program, which includes the National Coastal Resource Management Framework, provides grants and technical assistance to States and territories as they respond to increasing demands for the use of their coastal areas. The Program provides assistance to States and territorial governments to prepare and implement programs which balance the use and conservation of coastal and ocean resources. Twenty-nine coastal States and territories covering 94 percent of the coastline now have Federally-approved Coastal Management Programs (CMPs).

The Coastal Zone Management Act declares that "it is national policy to preserve, protect, develop, and where possible, to restore or enhance, the resources of the nation's coastal zone...". The protection of wetlands has been a major element of the 29 approved CMPs.

In addition, the National Estuarine Reserve Research System, authorized under Section 315 of the CZMA, has taken a direct role in protecting and improving the estuarine environment with the establishment of a 17-site State/Federal system of reserves in fifteen states protecting over 300,000 acres of estuarine land and water. Additional reserves are being developed in Delaware, New Hampshire and Virginia. The applied research supported by the reserve program addresses issues of coastal management importance such as the decline of eelgrass and methods for restoration and the effects of road construction and increased urbanization on estuarine resources.

Through its OCRM staff, NOAA is working with the States to see how the "no net loss" policy might be implemented through the States' CMPs. OCRM has served as a focal point with other relevant Federal resource agencies plans to discuss this policy and its implications with the coastal States.

Taking advantage of NOAA's observing capabilities in the National Marine Fisheries Service, National Weather Service, National Ocean Service, and the National Environmental Satellite, Data, and Information Service, NOAA has developed a prototype predictive program called CoastWatch. CoastWatch uses focused products and rapid dissemination techniques to supply information to address immediate coastal management needs.

A prototype CoastWatch component is monitoring the losses or gains in coastal wetlands. Quantifying changes in land use and vegetation cover in the coastal zone is critical to linking land-based human activities to the productivity of the coastal ocean. Change in the coastal zone due to human population growth and attendant impacts on the physical habitat, water quality and living marine resources is occurring faster and more pervasively than has been monitored. Similarly, monitoring of land use and vegetational coverage for the coastal zone has not been conducted on time scales appropriate for national and regional decision-making. Therefore, a program is proposed to monitor land use and vegetational coverage in the U.S. coastal zone in order to provide information supportive of research needed to determine the impacts of wetland and estuarine degradation on the abundance and distribution of fish. Coastal land use and vegetational coverage will be mapped every two to five years and monitored annually in regions of significant change.

Information systems for use on personal computers are also available in prototype form. Easily accessible systems of this type will improve managers' abilities to use pollutant quantity and source information; data on man's multiple uses of the water resources; and physical, chemical, and biological information about an area to make more informed decisions about development and conservation activities.

Understanding the effects of losing or modifying marine habitats as a result of human activities is one of six goals established for Federal programs in the National Marine Pollution Program - Federal Plan for Ocean Pollution Research, Development and Monitoring (FY 1988-1992). This plan was prepared by NOAA in cooperation with the interagency National Ocean Pollution Policy Board as required under the National Ocean Pollution Planning Act (P.L. 95-273, as amended) and was delivered to Congress earlier this year. The Plan recommends the formation of an interagency working group to promote coordination of studies on habitat loss and modification. At the May meeting, discussions will be initiated on improving wetlands mapping, documenting habitat loss rates and patterns, research on habitat functions, and effectiveness of habitat restoration and mitigation practices.

As is apparent from this summary of NOAA wetlands activities, our responsibilities and services provide research and information systems responsive to many of the needs of other Federal and State coastal wetlands managers and regulators as well as the scientific community. Within our current resources, we continue to explore means of augmenting, modifying or complementing our existing programs to produce NOAA products and services that better meet the needs of achieving the President's "no net loss" wetland policy.

Mr. Chairman, that concludes my statement. I will be happy to answer any questions that you or Members of the Subcommittee may have.

Statement of Wilson Scaling, Chief
Soil Conservation Service (SCS)
United States Department of Agriculture (USDA)
USDA Testimony before the Subcommittee on Water Resources of the
Committee on Public Works and Transportation, Washington, D.C.
April 19, 1989

Mr. Chairman and members of the committee, I am Wilson Scaling, Chief of the SCS. I am pleased to have this opportunity to review SCS activities related to wetlands and agricultural drainage. First, I would like to summarize these activities, then my staff and I would be glad to answer any questions. My summary covers our wetland activities prior to passage of the Food Security Act (FSA) of 1985, those after the Act, and SCS assistance in wetland related activities of other agencies.

Wetland Activities Prior to FSA

SCS, under its Public Law 74-46 authorities, has had a long history of providing conservation technical assistance through local conservation districts to farmers, ranchers, and other land users. Part of this technical assistance concerned drainage establishment and the improvement of drainage on farm lands.

Since the late 1970's our technical assistance has been largely restricted to individuals who wish to improve crop productivity on existing farmed wetlands.

We also work closely with the U.S. Army Corps of Engineers (CORPS) to ensure that recipients of SCS technical assistance comply with Section 404 permit requirements. In this regard, individual cooperators are informed by SCS of their responsibilities for complying with Section 404 requirements.

For SCS project type activities such as those carried out under the Public Law 883-566 the Small Watershed and Flood Protection Act, SCS's policy recognizes the need for project sponsors to mitigate adverse impacts where wetlands will be altered or destroyed. The Act dates back to 1954 and authorized the USDA to assist local units of government in planning and implementing water resource projects for many purposes including flood prevention, erosion control, irrigation, drainage, water based recreation development, agricultural pollution control, municipal and industrial water supply, and rural water supply. To date, 1,462 projects have been planned and authorized for installation. Many of the projects have been completed. About 8,000 dams, and 95 million acres of conservation treatment have been installed under this authority. Work is currently underway on about 500 projects with an additional 200 projects in the planning phase.

Each project under the Act undergoes an extensive environmental analysis during the planning process. The National Environmental Policy Act (NEPA) procedures are used to document environmental impacts. Wetland issues are a factor in the project formulation because structural measures to control flooding are by necessity often located in wet areas. Wetland mitigation or wetland replacement plans are included as part of a project when structural measures adversely impact valuable wetlands.

Prior to installation of any structural measure, an assessment is made on the need for a 404 permit by the CORPS. Most structures require a permit. The project sponsor is charged with obtaining the permit. Often, application for the 404 permit requires additional study concerning wetland impacts, suggestions of complete project reformulation, and renegotiating mitigation plans. This is particularly true when a long time has elapsed between planning and the proposed construction start.

It would be more efficient to have the 404 permitting process carried out concurrently with the development and review of the environmental impact statement.

Wetland Activities after FSA

The FSA included significant provisions relative to wetland conservation. One is commonly known as the "swampbuster" provision. Under this provision producers who, after December 23, 1985, convert wetlands for the purpose of producing an agricultural commodity lose their eligibility for certain USDA program benefits. To date 71 producers have lost benefits amounting to $739,000. Some 60 producer appeals on wetland violations are pending. Among others, these benefits include loans, crop insurance, deficiency payments and disaster payments.

The Act defines wetland as an area that has a "predominance of hydric soils and that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions." This definition is based on three criteria: the presence of hydric soils, the land's hydrology, and the ability of the land to support hydrophytic vegetation. SCS has been a leader in developing the list of hydric soils and has worked actively with other agencies in developing the list of hydrophytic plants.

SCS has decided to apply this wetland definition to all aspects of SCS technical assistance, not just to administer the wetland conservation provisions of FSA.

USDA published a final rule on September 27, 1987 governing the wetland conservation provisions of the FSA including those related to wetlands. In adopting the final rule, consideration was given to over 8,000 comments received in response to the interim rule, conclusions reached as a result of an interagency pilot study conducted to determine the feasibility of applying certain wetland procedures, and information obtained by consultation with the U.S. Fish and Wildlife Service.

The final rule requires participants in USDA programs to indicate whether or not they intend to alter any wet area on their farm. Participants declare their intentions on a form AD-1026. If the participant indicates an intent to alter a wet area, the form is immediately referred to SCS for a determination as to whether the wet area is a "wetland" for swampbuster purposes. SCS makes this determination within 60 days. If the participant indicates no immediate intent to alter a wet area, an AD-1026 form is referred to SCS for a determination of general swampbuster and sodbuster compliance when resources permit.

Wetlands converted prior to December 23, 1985 are exempted from the wetland conservation provisions except for certain areas such as potholes and seasonally flooded or ponded areas that still exhibit wetland characteristics.

Exemptions also exist for wetlands that can be farmed under natural conditions, wetlands where the conversion was commenced prior to December 23, 1985, artificially created wetlands, and converted wetlands where the conversion has minimal effect on the hydrological and biological values of the wetland.

As of March 31, 1989 SCS had made about 430,000 wetland determinations on some 4.9 million acres of wetlands.

In order to obtain more consistency and efficiency in making individual wetland determinations, SCS decided in FY 1988 to make wetland inventories for areas known to have a large number of significant wetlands. In FY 1989, we provided twenty states with about $7 million of additional funds to stimulate the completion of these wetland inventories. Our goal is to complete remaining wetland determinations for cropland and adjacent areas by December 31, 1991.

The first of these inventory completed was in the Red River Valley portion of North Dakota and Minnesota. The inventory has proven effective in reducing farmer concerns and those of the general public about these new requirements. It also proved an effective process to complete wetland determinations in a prompt and orderly manner.

SCS Assistance in Wetland Related Activities of other Agencies

SCS provides technical services in the implementation of the Conservation Reserve Program (CRP) and the Water Bank Program (WBP) administered by the Agricultural Stabilization and Conservation Service. The CRP is intended to remove some 40-45 million acres of highly erodible cropland and other lands from agricultural production for a 10-year period. Currently the 28 million acres are enrolled in the CRP, exclusive of the last sign up.

Recently, CRP eligibility criteria were modified to permit certain farmed wetlands to be eligible to be placed in the program. Data from the last CRP sign up is still being tabulated, but estimates indicate that bids were received to place as many as 300,000 acres of farmed wetlands in the CRP. If this acreage is accepted for the CRP, these farmed wetlands will be protected for the life of the contract.

Under the Water Bank Program owners of land in selected areas of important migratory waterfowl nesting, breeding areas,or feeding areas that have eligible wetlands with a sufficient amount of adjacent land to protect the wetland, may enter into 10 year contracts with the Commodity Credit Corporation to maintain and protect the wetland. Annual payments are made to the owner/operator. During the past 10 years approximately 5,000 contracts have been entered into on 550,000 acres of land. The Administration's 1990 budget proposal calls for legislation authorizing the use of permanent easements in lieu of 10 year agreements for protecting such wetlands.

SCS makes the determination of land eligibility and assists land users in developing the conservation plans that are used as the basis for contracts with USDA in both these programs.

On January 10 of this year, the four major federal agencies having wetland responsibilities - SCS, U.S. Army Corps of Engineers, Environmental Protection Agency and the U.S. Fish and Wildlife Service - agreed to use uniform hydric soil, wetland hydrology, and hydrophytic vegetation criteria to implement their wetland responsibilities in the future. This will help improve consistency of federal operations but will not completely eliminate all problems because of specific exclusions or exemptions provided for in various laws they administer.

SCS is also serving on an interagency committee that is addressing ways to implement recommendations made by the National Wetlands Policy Forum and the President's initiative for "no net loss of wetlands". A critical component of the initiative involves recommendations to address the loss of wetlands due to agricultural conversions.

Thank you for the opportunity to be here today to discuss this important subject. Our agency looks forward to working with you toward enhancing the protection of our Nation's wetland resources. We believe the swampbuster provisions, CRP, and increased interagency cooperation will complement President Bush's goal of no net loss of wetlands. My staff and I would be pleased to answer any questions you may have.

THE STATUS OF THE NATION'S WETLANDS AND LEGISLATION RELATED THERETO

FRIDAY, MAY 12, 1989

House of Representatives,
Subcommittee on Water Resources,
Committee on Public Works and Transportation,
Lake Charles, LA.

The subcommittee met, pursuant to notice, at 1:32 p.m., in Main Auditorium, McNeese State University, Lake Charles, Louisiana, the Honorable Henry J. Nowak (chairman of the subcommittee) presiding.

Present: Representatives Nowak, Tauzin, Hayes, and Hancock.

Mr. **Nowak**. It gives me great pleasure to be here this afternoon with my colleague, the Honorable Jimmy Hayes. Mr. Hayes, you are recognized.

Mr. **Hayes**. Thank you, Mr. Chairman. Good afternoon everyone. I would like to thank everyone for their efforts this morning.

Mr. Chairman, as a member of Congress who is faced with losing his congressional seat, not by reapportionment, but by the erosion of his district's land, I sincerely appreciate your commitment to study the problems surrounding our wetlands during this current session.

As this hearing will reveal, Louisiana is faced with the unfortunate burden of being home to 40 percent of the nation's wetlands, while suffering 80 percent of the total losses. Due to the ecological and economic impact of these productive regions upon the Gulf and the nation, I believe that there is no question as to the necessity of Federal intervention in combating the problem. Therefore, I applaud the Chairman in his commitment to rectify these problems and speak on behalf of everyone in southwestern Louisiana when I offer my sincere appreciation for his efforts.

Before moving on to the witnesses we have here today, I would like to explain why this committee, and Congress, should be spending its time and money on this issue. The coastal wetlands of the Mississippi Delta and Cheniere plain located to the west of the Atchafalaya River Basin, offer a per acre productivity that rivals the highest values anywhere in the world.

Each year this region's shellfish and commercial fishing industries pump over $680 million into our nation's economy, supplying seafood for grocers and restaurants in every State in the nation. Our fur industries are the largest in the U.S., adding another $18 million each year that comes from the region's renewable resources. These wetlands also support over two-thirds of the waterfowl that use the Mississippi flyway each year, a total of over 4 million birds. Combining both sport fishing and hunting activities, each year this region supports the recreation of over one million people, spending $538 million in retail sales that in turn creates 17,000 jobs and provides our economically depressed State with over $8 million in tax revenues. We, literally, cannot afford to ignore the impact that these industries have upon both the region and the nation. Nor can we ignore the role that the Federal Government must play in preserving these lands.

Due to your trip into one of the local refuges this morning, I hope that the members of this subcommittee can better appreciate that, while this region apparently has little value to the untrained eye, a realistic appraisal reflects an annual billion dollar, renewable resource. Furthermore, keep in mind that these numbers do not even touch upon the oil and gas production that occurs along this fragile coast, estimated to exceed $27 billion a year.

What also concerns me, however, are the intangibles we lose should we continue to ignore this problem. The culture and quality of life that this region is so famous for is also in jeopardy of vanishing along with the coast. The flavor of Cajun Louisiana is preserved in the pastimes and jobs that are found in this coastal zone, and I know we each understand that it is impossible to put a value on saving one's heritage.

I would also like to take this opportunity to thank the people here at McNeese State University and the Port of Lake Charles for their assistance in putting this hearing together. Without their support, such an event could not have proven to be so successful. I would also like to apologize to the many people sitting in the audience today who we could not accommodate in placing them upon the panel. As you can well imagine, due to the widespread interest in this issue there were far more qualified people than slots available. Fortunately, this is not the only hearing; this is only one of many to come as we work on a national wetland policy.

I look forward to the testimony, and again wish to offer my sincere thanks to the Chairman for convening this important hearing.

Mr. **Nowak**. Jimmy, thank you very much.

This morning we travelled from some distance to hear testimony on changing and highly neglected coastal wetlands. We also hope to receive information which will enable us to more fully understand the loss of Louisiana coastal wetlands and the effects of those losses and a proposal to ameliorate those losses.

With such an improvement of national awareness we hopefully will be able to develop a consensus to reduce and one day eliminate the loss of this highly special natural resource.

We will receive testimony from representatives of five Federal agencies involved in our nation's wetland program, several representatives from the State of Louisiana and several non-governmental witnesses who are affected by the continuing loss of the Louisiana wetlands.

Before we begin with our first witness, I would like to thank the distinguished representative from the 7th District of Louisiana, Congressman Jimmy Hayes, for his hard work in bringing about this hearing. Since he arrived in Congress he has worked towards an increased national awareness of wetlands loss in his home State of Louisiana.

I am looking forward to continuing to work with Congressman Hayes in Washington to develop an effective plan for national wetlands.

At this time I would like to yield to the Ranking Republican Member of the Subcommittee, the Honorable Mel Hancock of Missouri for whatever remarks he wishes to make.

Mr. HANCOCK. Thank you very much, Mr. Chairman.

First, let me commend you for your leadership in convening today's hearing and for your ongoing interest in wetlands protection in general. With your guidance, this subcommittee has begun an extensive campaign to learn more about wetlands and ways to protect them. In just the last month, we have held three days of thorough hearings, including a field inspection of prairie pothole wetlands, 1,300 miles away, in the North Central Plains.

Let me also thank Congressman Jimmy Hayes, a valuable member of the subcommittee, for his hospitality and hard work. Of course, I also want to welcome Senator John Breaux, this audience, and our witnesses.

Today's hearing will be very helpful to our efforts back in Washington as we consider national and regional approaches to wetlands conservation and restoration. Already we have had a productive day viewing first hand the area's coastal marshes.

Mr. Chairman, the subject of today's hearing, lost coastal wetlands along the Gulf, should greatly concern all of us. This is not a local issue; it is a national one. Louisiana is losing up to fifty square miles of, its valuable coastal wetlands per year. This represents eighty percent of the total loss of America's coastal wetlands.

If this disturbing trend is not reversed, we all stand to lose. Louisiana's unprecedented coastal erosion threatens invaluable natural resources such as endangered species and their critical habitats. Also at risk are important public investments such as Federal and State highways, hurricane levees, flood walls, oil and gas pipelines, and other utilities. It is a particular problem there in Louisiana but it is certainly a national trend as well. In the last two hundred years we have lost more than fifty percent of our nation's wetland base due to manmade and natural causes.

These concerns prompted the National Wetlands Policy Forum, the EPA, and President Bush to endorse a wetlands goal of "no net loss." This general phrase, however, needs specifics. We must answer questions about regional differences, mitigation policies, permitting procedures, and funding methods.

Above all else, we need to keep a balanced perspective. We cannot lose sight of the valuable contributions made to society by agriculture, public works projects, industry, a strong economy, and a reliable energy supply, nor can we focus solely on one cause or one solution. It is a complex situation requiring us to look beyond the Corps' permitting or dredging activities to the whole range of manmade and natural factors.

Mr. Chairman, for all these reasons, I look forward to our witness' testimony. Their expertise will build upon what we have already seen and heard this morning. By examining problems and exploring solutions, I think we can help make a real contribution to reasonable and balanced wetlands protection, both in Louisiana and throughout the nation.

Mr. **Nowak**. Thank you very much, Congressman.

Let me now, before I introduce my first witness, bring back Jimmy Hayes who had so much to do with bringing this hearing here for any remarks he would like to make at this time.

Mr. **Hayes**. Thank you, Mr. Chairman.

The other observation that I might make is that as we flew over south Louisiana this morning it struck me that when you send a congressman to see the deterioration because of the construction of highrises so close to water lines people instantly decrease the threat. It is hard to concede without this firsthand knowledge of Louisiana that the threat is imminent and it is equally economically devastating. And what we're preserving is the opportunity for people to hunt and fish, swim and use the beaches. And this fortunate American society gets over a fourth of all the seafood produced and processed in the nation.

But more than that is the emotional realization that you can rebuild an office building but you cannot very easily rebuild the wetlands. You cannot duplicate what was once there.

I think that as we move forward in these hearings we have got to understand the economic losses are appreciable but that the loss to the nation and the loss to the childhood of those who can go to a canal and swim if they want to and the loss of those memories cannot be estimated whatsoever.

And I think the members of the Committee and many of the staff members can now be part of those memories.

Thank you very much, Mr. Chairman.

Mr. **Nowak**. Thank you, Congressman.

At this time I would like to recognize the Senator from Louisiana, John Breaux, who is a former member of this Public Works Committee, really for all the hard work he has done towards protecting wetlands. I know he has introduced legislation, and we have talked about moving forward in this area.

And we will certainly be taking a close look at his initiatives and his recommendations as we move through this process. And it is certainly a pleasure to have him appear before this committee on which he was a former member. And I can think of no one who would be more appropriately prepared to be our first witness than your Senator, John Breaux.

TESTIMONY OF HON. JOHN BREAUX, U.S. SENATOR FROM THE STATE OF LOUISIANA

Mr. **Breaux**. Thank you very much, Mr. Chairman. And welcome to Louisiana. I would like to say to each and every one of you here I am so pleased to see so many of you here. I'm particularly pleased that Jimmy Hayes, your Congressman, and all the people here are familiar with his work on the Water Resources committee.

Two major components of the plan we're discussing today are restoration and elimination of any further loss of the wetlands. The plan over which the State will have and can exercise control will have the provisions to restore our coastal wetland, land that is being lost, through identifying the areas that are in need of restoration and identifying projects that are able to restore those areas, actual construction projects which will be constructed in the coastal wetlands in order to restore some of the lost lands that we are seeing.

Restoration activities will not be counted towards any kind of a no-net-loss goal. Restoration activities will result, hopefully, in a net gain. We are talking about rebuilding wetlands through the first part of my legislation, which is the restoration portion of it.

The second portion of legislation will include a wetland permitting program which will be applicable to the coastal areas of Louisiana. It will be developed and implemented and enforced by a single agency—critically important—within the State of Louisiana and will be done under State law.

This program, the permitting program, is to achieve this goal of no-net-loss. This is a goal that I have heard Bill Reilly say that he supports on behalf of the administration. I have other national environmental organizations' support for a goal of no-net-loss because of developmental activities. This permitting program will obtain that goal.

The State would have the flexibility of determining how that goal can be met and how it would be achieved, except that it is not the intent of the bill to require no-net-loss on a project by project basis or to require on-site compensation if that is not possible. It is a total picture, not on a project by project basis.

And the goal is no net loss of any wetlands because of any activity that a State permits or allows to take place in the coastal wetland areas.

So the two essential ingredients are, number one, projects to restore lost wetlands and, number two, a permitting process that says when we have activities in the area those activities cannot result in any net loss of coastal wetland areas.

The third feature of the program—and the program is not that unique, but we cannot afford to pay for it in Louisiana. We have State legislators who are here this afternoon. And the State has just had a Statewide tax election which failed. State officials will tell you that we are looking at a $6 to 700 million deficit in our State. We cannot afford to do what is needed by ourselves in order to correct this problem, which is truly a national problem.

So the third feature of our legislation is to establish a trust fund, a trust fund which would be funded by taking 5 percent of those monies that currently go to the OCS from the OCS activities to the Federal Government out of continental shelf's activities, put it into a trust fund, and use those monies to pay for the restoration activities that we are talking about, as well as paying for the permitting.

That amount this year—last year, rather. would amount to about $145 million. The State of Louisiana alone contributes on the average over the last 10 years about 64 percent of all the money going into the trust fund, just from activities off of our coastal area here in Louisiana. Last year it was over 70 percent.

So Louisiana, because of our good efforts, the men and women who work offshore, the hundreds of thousands that do it, provide the energy to run this country, are contributing over 70 percent of the money going to Washington. My suggestion is to take a very small portion of it and send it back to Louisiana to help this program work.

Some would say, well, why should the rest of the government contribute? Very simple: because we are contributing to the rest of the government's flood control projects, the water is transported through this State. And secondly, we are providing the energy and yet not getting any of the revenues as a result of it.

So the legislation is not that unique. And I think, Mr. Chairman, as I said, it is time to take the studies off the shelf, dust them off, and let's get to work with something that can make a real difference. I think this is a good beginning, and would certainly commend our legislation to my colleagues and friends in the House.

Thank you, Mr. Chairman.

Mr. Nowak. Thank you very much, Senator, for your statement and for your leadership on this issue. And you certainly brought this to the attention of the many Senators throughout the country. And we will be looking forward to working with you.

I would at this point in time because of the schedule ask you if you would like to join us, if you would, and we would then proceed with the hearing from the Federal officials, which we are all anxious to do.

At this time let me bring forward then our first panel, Federal agencies: the representative of the U.S. Army Corps of Engineers, Major General Thomas A. Sands, who is a Division Engineer, Lower Mississippi Valley Division. Major General Sands can come forward and be joined by Horace J. Austin of the U.S. Soil Conservation Service, State Conservationist, State of Louisiana. If he will come forward with Norm Thomas, who is Chief, Federal Activities Branch, Environmental Services Division, EPA Region 6.

Also Mr. David Fruge, who is the U.S. Fish and Wildlife Service Field Representative, Louisiana Field Office; and Dr. Nancy Foster, who is the Director of the Office of Protected Resources and Habitat Programs, National Marine Fisheries Service, from the National Oceanic and Atmospheric Administration.

When you are all in place I will turn to Major General Sands and be happy to accept your testimony at this time.

I might just say, gentlemen, we will incorporate all of your full statements which you have submitted into the record and we will allow you to proceed in any manner you so desire.

TESTIMONY OF MAJ. GEN. THOMAS A. SANDS, DIVISION ENGINEER, LOWER MISSISSIPPI VALLEY DIVISION, U.S. ARMY CORPS OF ENGINEERS: HORACE J. AUSTIN, STATE CONSERVATIONIST, SOIL CONSERVATION SERVICE (SCS), U.S. DEPARTMENT OF AGRICULTURE; NORMAN THOMAS, CHIEF, FEDERAL ACTIVITIES BRANCH, U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 6, DALLAS TX: DAVID FRUGE, FIELD SUPERVISOR, LOUISIANA FIELD OFFICE, U.S. FISH AND WILDLIFE SERVICE; DR. NANCY FOSTER, DIRECTOR, OFFICE OF PROTECTED RESOURCES AND HABITAT PROGRAMS, NATIONAL MARINE FISHERIES SERVICE

General Sands. Thank you very much, Mr. Chairman.

Mr. Chairman and Members of the Committee, I am Tom Sands. I am the Commander of the U.S. Army Corps of Engineers, Lower Mississippi Valley Division. I am very pleased to represent the Army here this afternoon and to appear before your committee.

As requested in your letter of invitation, I will try to orient my discussion to those wetlands activities that the Corps undertakes in construction, design, and planning. I also will describe our regulatory activities within this area.

I would ask that my full statement be accepted for the record. In the interest of time I will try to briefly summarize its major points.

Mr. **Nowak**. Without objection.

General **Sands**. As indicated earlier, the State of Louisiana has some 40 percent of the Nation's coastal wetlands, and at the same time we are experiencing roughly 80 percent of the coastal land loss that occurs in the United States. During the time frame 1956 to 1978 this rate of loss was somewhere in the neighborhood of 40 square miles per year.

We are in the process right now of undertaking studies at our Waterways Experiment Station which indicate that this loss of areas over the State of Louisiana in various areas may be slowing. This is still not good. The Louisiana coastal wetlands are a tremendously productive area. These wetlands support some 30 percent of our nation's commercial fish and shellfish harvests. These marshes support our nation's largest wild fur and hide harvest which, of course, is something that is very important. These same wetlands support the wintering habitat of some two-thirds of the waterfowl that use the Mississippi flyway.

The continued loss of Louisiana coastal wetlands will obviously have a significant impact on our Nation's economy. Over the next 50 years with nothing being done about it, a 27 percent loss of the existing coastal area is expected. Obviously, this particular loss will cause a decline in the area's value.

The natural coastal and deltaic processes coupled with human activities have accounted for the rapid loss of Louisiana's coastal wetlands. The long-term forces of subsidence, sea-level rise, saltwater intrusion, and erosion have been responsible for the natural portion of the wetlands loss. Subsidence causes the lands to sink. And the rising sea levels, of course, will cover the wetlands with additional water. Together, this sinking land surface and rising water level accounts for a significant portion of our wetland loss. These factors intensify saltwater intrusion, and erosion, of course, accelerates the process.

The activities of man——

Mr. **Nowak**. Now, I wonder—Excuse me just a minute. Can everybody hear in the audience? Perhaps we can move the mike just a little closer. I think they work better if you move them very close.

General **Sands**. The activities of man in coastal Louisiana have been a significant factor in our wetland loss. Indispensable flood protection in the flood-prone area of the lower Mississippi Valley and national economic development in Louisiana's wetlands have caused wetland loss.

Flood control levees along the Mississippi and Atchafalaya Rivers have confined these rivers and changed the natural annual hydrologic regime in which the river overflowed its banks each spring, flooding the adjacent marshes with nutrient, and sediment-rich water. These sediments and nutrients would build and sustain the diversity of the wetlands.

The deepening of the rivers for navigation has resulted in the deposition of millions of tons of sediment in deep waters of the Gulf of Mexico each year, rather than in the shallow bays where wetlands could develop.

Louisiana's wetlands are laced with some 8,200 miles of navigation, drainage and petroleum access canals. Wetlands are lost during excavation of these canals and are buried as the dredged material is piled next to the canals. These canals segment the wetlands and expose them to erosion. Saltwater quickly flows into the wetlands through these canals causing even greater harm.

We have been, and continue to be, very active in the development of wetland preservation, restoration, and enhancement projects within coastal Louisiana under our existing authorities. As a result of the disposal of shoal material dredged from navigation canals in the coastal area, approximately 3,000 acres of marsh has been created in the last 15 years. Up to 18,000 acres of marsh will be created over the next 50 years as part of the construction and maintenance of the recently completed 45-foot increment of the Mississippi River Ship Channel from Baton Rouge to New Orleans. As opportunities arise, shoal material from other navigation channels will be used to create additional marsh.

Studies indicate that saltwater intrusion in the Louisiana coastal wetlands can be reduced by diverting freshwater from the Mississippi River through structures in the mainline levee into the adjacent wetlands. Pursuant to the authority provided in Section 201 of the Flood Control Act of 1965, the Secretary of the Army approved implementation of the Caernarvon Freshwater and the Davis Pond Diversion structures. The State of Louisiana has voluntarily agreed to share in the cost of the Caernarvon structure and the State of Louisiana is the non-Federal sponsor for the Davis Pond structure.

Construction has begun on Caernarvon. This structure will preserve or enhance some 16,000 acres of marsh and produce an average annual increase in commercial fish and wildlife production of some $6.7 million within the Breton Sound area over the 50-year life of the project. Advanced engineering and design is under way on the Davis Pond structure. This project will preserve some 83,000 acres and produce an average annual increase in commercial fish and wildlife production of some $10.9 million within the Barataria Basin over the next 50 years.

Additional studies to further abate saltwater intrusion resulted in the authorization of the Bonnet Carre' Freshwater Diversion structure in the Water Resources Development Act of 1988. Cost sharing requirements for this project are currently under review, and preconstruction engineering and design is continuing on it.

This diversion project will preserve some 10,500 acres of marsh and swamp and produce an average annual increase in commercial fisheries production of $7.9 million within the Lake Pontchartrain Basin and western Mississippi Sound over the project life. Shoreline protection features are being considered along the Mississippi River-Gulf Outlet that would reduce the project's drastic increase in shoaling rates and protect some 1,700 acres of marsh from erosion over the next 50 years.

Three interim studies which address the coastal wetlands problem are under way as part of the Louisiana Coastal Area study which was authorized by resolutions of the Public Works Committees of the Senate and House. Pursuant to the Water Resources Development Act of 1986, the feasibility studies under this authority are being cost shared 50/50 with the State of Louisiana.

One of these studies, the Louisiana Comprehensive Coastal Wetlands Study, is in the reconnaissance phase. Its purpose is to define how various wetland preservation, restoration, and enhancement projects will be identified and then integrated into a comprehensive plan to address the National problem of wetland loss in coastal Louisiana.

Another study, the Land Loss and Marsh Creation Study, is presently in the feasibility phase and is considering the advisability of creating marsh with dredged material not presently used for that purpose, because of the increased cost. In addition, the study is evaluating the large- and small-scale diversion of river sediments as a marsh creation technique. As part of this study, an economic analysis of the value of marsh has been conducted and is presently undergoing review.

The other ongoing study, the Atchafalaya Basin Water and Land Resources Study, is in the feasibility phase. Its purpose is to investigate alternatives to enhance development of marsh within the actively growing Atchafalaya Delta, while at the same time maintaining navigation and flood control functions within the Atchafalaya River.

I would also like to mention the Shore and Barrier Island Erosion Study which did not identify economically feasible improvements or modifications of existing projects that would provide shore and barrier island erosion control along Louisiana's coast. However, the alternative plans of improvement that were identified will be considered further in the Louisiana Comprehensive Coastal Wetlands Study.

The New Orleans District has one of the largest regulatory programs of any district in the Corps of Engineers. The decision whether to issue a permit is based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. Evaluation of the probable environmental, economic, and social impacts which the proposed activity might have on the public interest requires a careful weighing of all factors. The benefits which reasonably may be expected to accrue from the proposed action must be balanced against the reasonably foreseeable adverse impacts.

The permit will be issued unless the District Engineer determines that it would be contrary to the public interest or does not comply with the 404(b)(1) guidelines. Where appropriate, the permit application may be modified to minimize or prevent damage to the wetlands. An example would be the requirement that an applicant construct a board road over the wetlands rather than dredge an access canal.

Whenever there is a less damaging practicable alternative for a dredge and fill activity the permit applicant may be required to use the alternative site. In some instances the permit applicant will be required to consider technical alternatives that could reduce canal construction. The most obvious is directional drilling in light of the fact that most offshore drilling is done that way.

The New Orleans District has a joint program with the Coastal Management Division of the Louisiana Department of Natural Resources and the Louisiana Geologic Survey to deal with drilling permits. The three agencies meet with the permit applicant to determine the technical, environmental, and economic feasibility of directional drilling on a proposed well. Taken together, these regulatory procedures serve to reduce the loss of wetlands while still allowing prudent development. In addition, regulatory personnel inspect permitted work to insure it conforms with the permit specifications.

There is no doubt that coastal erosion and the loss of wetlands is a very serious problem. It deserves a coordinated and comprehensive attack to reduce the rate of loss. We in the Army Corps of Engineers stand ready to accomplish any environmental tasks that the Congress and the Administration deem appropriate.

Mr. Chairman, that concludes my remarks. I would be happy at the appropriate time to answer any questions you may have.

Mr. NOWAK. Thank you very much. And we will hold questions until we finish processing the whole panel's testimony.

So let us at this time turn to Mr. Horace J. Austin.

Mr. AUSTIN. Mr. Chairman, and members of the Committee, I am Horace J. Austin, State Conservationist for the Soil Conservation Service in Louisiana. It is my pleasure to have the opportunity to speak on the USDA soil and water conservation activities in the coastal wetlands in Louisiana.

First, I would like to summarize the history and development of the soil and water conservation program in the coastal areas, and then discuss the programs we currently have underway in Louisiana. I will be glad to answer any questions after my testimony.

The Soil Conservation Service is charged with providing national leadership in the conservation of soil, water, and related resources through a cooperative program that protects and improves those resources.

In Louisiana, the Soil Conservation Service has 52 field offices providing direct assistance to 43 soil and water conservation districts. In the coastal area of Louisiana we have ten field offices working with nine soil and water conservation districts. These local district boards each consists of five board members who develop district priorities and goals.

At the local level, SCS conservationists provide on-site assistance in solving specific soil and water resource problems in land users. The Agency's highest priority is reduction of erosion on agricultural land, implementing the conservation provisions of the Food Security Act of 1985. A second priority is to improve and protect the quality and quantity of surface and groundwater.

In the early 1980's the Soil Conservation Service, in response to requests by landowners, soil and water conservation districts, and other agencies in the State, began to accelerate the technical assistance available to landowners in the coastal area. However, implementation of the Conservation Title of the 1985 Farm Bill has taken priority and slowed down the acceleration of assistance to the coastal area.

The assistance provided to landowners is in the form of conservation planning.

All conservation plans in coastal areas are developed with landowners using an SCS team, normally consisting of an engineer, biologist, agronomist, soil scientist, and soil conservationist. This team provides the landowner with alternatives for solving his or her resource problems. The selected conservation plan reflects the decision of the landowner relative to conservation objectives. Other Federal and state agencies have participated with the SCS team in planning, which has strengthened the planning process.

The key to the successful development of plans has been the willingness of State and Federal agencies in Louisiana to participate in interagency reviews of the plans. These reviewers have helped to resolve problems early in the permitting process where implementation requires a Section 404 permit by the Corps of Engineers and/or the designated state agency.

Over 90 percent of the coastal marshes in Louisiana are privately owned. Soil and water conservation districts now have 2.5 million acres of this privately owned coastal marsh under cooperator agreement. Over 700,000 acres have conservation plans developed waiting implementation.

Louisiana's valuable coastal wetlands are nationally significant. Louisiana's commercial fishery landings rank number one in the nation in tonnage; average 1.9 billion pounds. This represents 30 percent of the total fishery harvest of the United States. The fur trapped in the coastal wetlands of this State represents 40 percent of the total U.S. value. Louisiana accounts for 88 percent of the total U.S. alligator harvest.

The use of diverse and stable vegetative communities is a key consideration in the marsh conservation planning process. It has been demonstrated that vegetative plantings retard the shorelines, canal banks, dunes, or other marsh-water interfaces; and promotes the re-establishment of emergent wetland vegetation.

Erosion and land loss are a product of human activities and natural geologic changes. Navigation channels, mineral exploration canals and other hydrologic alterations have completely rearranged the marsh landscape and historical water movement patterns. The natural system of high bank distributaries and smaller meandering streams has been crisscrossed by deep channel systems linked directly to the Gulf of Mexico. Freshwater flow from the natural levees and upper basin areas moves rapidly via the new system of channels and is no longer distributed in such a way as to buffer and protect the fresh to intermediate marshes. During periods of high seasonal salinities and low rainfall, saltwater intrudes inland through these same canals. In many areas, vegetative die-offs have occurred. These areas convert quickly to massive mud flats or permanent open water. Proper water management has been utilized to benefit rapidly eroding marsh areas. A pilot project called the Fina LaTerre Area in Terrebonne Parish is an example of this type of marsh improvement through water management. In just three years following the installation of a system of control structures, this area has experienced a net gain of 6 percent, over 300 plus acres, in marsh areas. Adjacent non-managed areas have experienced no change during the same period.

In areas lacking plants that tolerate increased salinity or deeper permanent water levels, selected vegetation must be introduced. The LaBranch area in St. Charles Parish is one example of how such plant introduction can benefit a rapidly deteriorating marsh. Smooth cordgrass was introduced into this area in 1984. Historically, this marsh was dominated by fresh to intermediate vegetation. However, saltwater intrusion and increased tidal flux resulted in severe marsh erosion and coversion to large open water areas. The smooth cordgrass has spread rapidly from the small test plantings and has colonized throughout a large portion of the shallow water. In 1985 the Soil Conservation Service set up the Louisiana coastal marshlands plant materials field laboratory at Golden Meadow.

In October 1988, it was officially established as a USDA plant materials center. The Golden Meadow Plant Materials Center was dedicated on April 22, 1989.

SCS in Louisiana is actively expanding our coastal revegetation efforts through the opportunities associated with the new Golden Meadow Plant Materials Center.

Water management capability also is a consideration in any alternative marsh restoration endeavor. Large freshwater diversions, mini-freshwater diversions, vegetative plantings and other alternative restoration practices are linked to water management capability. Water management capability provides a degree of control of water levels, salinity levels, and sediment-organic deposition. Water level management for vegetative lands does not necessarily require levee impounding areas.

The watershed protection program authorized by Public Law 83-566 administered by the Soil Conservation Service has been used in two watershed areas of coastal Louisiana to address marsh erosion, water management, and resource treatment needs. The recently completed Cameron-Creole Watershed Project in Southwestern Louisiana involved the installation of levees, water control structures, and vegetative plantings for protection of over 113,000 acres of coastal marshlands. Two additional watershed project plans have been developed through cooperation with local sponsors in Terrebonne and Lafourche Parishes. The West Fork Bayou L'Ours and Bayou Penchant-Lake Penchant projects will collectively benefit over 176,000 acres of fresh, intermediate, and brackish marshes. These two projects have been approved for operations with authorization for Federal technical assistance only.

The West Fork Bayou L'Ours authorized $639,200 of Federal funds for technical assistance and $2,698,600 needed from non-Federal sources to install the planned measure. The Bayou Penchant-Lake Penchant project authorized $859,000 of federal funds for technical assistance, and $5,437,700 needed from non-Federal sources to install the planned measure. No federal or local funds have been made available to begin work on either of these projects.

The Water Bank Act (Public Law 91-559) was enacted on December 19, 1970. Its purposes are the reduction of the continued loss of wetlands and the restoration and improvement of wetlands in important migratory waterfowl breeding areas. The Agricultural Stabilization and Conservation Service administers the program with technical input from the SCS, U.S. Fish and Wildlife Service, and several State agencies. Prior to 1988, the program priorities were directed to preserve existing wetlands in the upland areas. In 1988 the program was expanded to include restoring wetlands in the coastal marsh.

Currently, only freshwater, non-tidal wetlands, are eligible for the program.

In cooperation with other agencies and private landowners, selected marsh conservation plans are being monitored by SCS to document the effectiveness of installed conservation systems. Selected data are monitoring and include salinity, water levels, vegetative community responses, erosion reduction, and fish and wildlife population/harvest levels. As I mentioned earlier, this approach is proving beneficial for the Fina-LaTerre conservation plan area in Terrebonne Parish. In the three year period since completion of the conservation practices, there has been a gain in marshlands area of six percent. Water levels are more stable, aquatic and emergent vegetative communities more diverse and productive, and there has been an overall increase in fish and wildlife productivity.

Mr. Chairman, this concludes my remarks. I will be glad to answer any questions.

Mr. NOWAK. Thank you very much. We will hear from our next witness, Mr. Norman Thomas, Chief of Federal Activities Branch, EPA.

Mr. THOMAS. Mr. Chairman, members of the committee, with your permission, much of the data that we have, that I have to present, has been presented by the General for us, and also by your panel. We all have the same data, and the same data bases.

With your permission, I would like to skip over much of my earlier presentation and go just to the—just give you some background, and I will submit the whole——

Mr. NOWAK. Fine. The whole statement will be accepted into the record without objection.

Mr. THOMAS. With that then, I will start with what should appear at the top on page 4, which is in November 1986, a National Office of Wetlands Protection was established by EPA in an effort to place greater emphasis upon the protection of wetlands. Concurrent with this activity, the regional office began to re-emphasize wetlands protection in Louisiana. The Region 6 Wetland Protection Program was developed similarly to other regions and encompasses permit review, enforcement, advance planning, and public outreach. Region 6 designated wetland loss in coastal Louisiana as a special initiative early in the establishment of the wetlands program. The Region's approach to the wetland loss problem was addressed from several perspectives, including planning efforts, regulatory efforts, and research and prototype studies.

The Region took an active role in early planning efforts, most notably the Corps of Engineers' comprehensive action plan, and the State of Louisiana's marsh management strategies. Our participation in these planning efforts is to ensure that all wetland values are considered and that consistency with the regulatory program is maintained.

Under Section 404 of the Clean Water Act, the Army Corps of Engineers and EPA jointly administer a permit program that provides for the issuance of permits that allow the placement of dredged or fill materials into waters of the United States. Our regulatory efforts have focused on the review of over 1,000 individual Section 404 coastal permits each year for compliance with the 404(b)(1) guidelines. The guidelines apply site specific criteria for establishing appropriate conditions to minimize unacceptable effects on the aquatic ecosystem. A memorandum of agreement with the Corps and EPA provides a process for resolving issues that we may identify. It is recognized that EPA has the ultimate authority with regard to prohibition of discharges into the waters of the United States.

With regard to the research and prototype studies, the EPA has worked diligently to advance the data base, make decisions. Some of these projects, a list that we have partially funded. One was listed recently that we have helped in funding. But the listing is about ten, and it is initiation of cumulative impact studies for the Pearl River Basin, including coastal areas; conducting an advanced identification study of priority wetlands near the Pearl River; obtaining designation of the Barataria Bay Basin as a national estuary project; developing a prototype handbook for wetland managers for evaluating oil and gas activities; aerial photography and photo interpretation of coastal Louisiana; a freshwater marsh management study site in the Atchafalaya Basin; the plant materials laboratory to develop methods of establishment and dispersal of appropriate species of vegetation for use in eroding marshes; the Near Coastal Waters Pilot Project implementing terracing techniques for restoration and erosion control in shallow bay areas; and construction of sediment diversion structures; monitoring of brackish marshes under "management" to determine the effects of water level manipulation; the Canal Spoilbank Removal and Wetland Restoration Project.

The Wetlands Protection Program meets the environmental themes called for by the new EPA Administrator, William Reilly. These environmental themes include: controlling pollution; renewing our commitment to natural resource conservation; and better enforcement. These themes are consistent with the findings of the National Wetland Policy Forum, which was published last fall. The recommendations of the Forum called for increased planning efforts, development of State wetland protection plans, and increased levels of enforcement. The Forum also recommended a goal of "no overall net loss" of the wetland resource in terms of acreage and function. President Bush has called for the establishment of an interagency task force under the Domestic Policy Council to recommend ways to revise the Executive Order on wetlands, and strengthen agency activities with respect to wetlands. We are ready to work with other agencies to sort out the many complex issues that we face in implementing this concept.

In the Region, our efforts find a twofold focus. We are continuing to examine projects requiring individual Section 404 permits, and we are also emphasizing activities in areas such as coastal erosion, which are beyond the scope of the Section 404 Program.

Additionally, in coastal Louisiana we are promoting large and small freshwater and sediment diversion projects to create wetlands or enhance degraded wetlands; requiring improved management practices to reduce wetland loss; evaluating the effects of water control practices; and exploring the beneficial uses of dredged materials.

These are the activities that may offset those that are attributed to a loss by a permitting, but the long-term plan must be developed, an action plan developed to cover those areas which are being lost through the natural, and also the past plan actions.

In summary, we have expanded our Wetland Protection Program activities over the last two years, and are now involved in all aspects of wetland protection; specifically we have an active enforcement program, involved in four advanced identification projects, and largely involved with the comprehensive planning for all of the Southern Coast of Louisiana. We are providing technical insight to the Corps' permitting efforts, and we are also involved in public education through our Public Outreach Program. We are encouraging the State and local planning efforts in managing coastal areas.

This concludes my remarks, sir.

Mr. NOWAK. Thank you very much.

Dave Fruge, who is a field representative of Louisiana Field Office, U.S. Fish and Wildlife Service.

Mr. FRUGE. Thank you, Mr. Chairman, members of the subcommittee, I appreciate the opportunity to participate in this hearing today. Our Field Office is involved in the expensive wetland conservation activities throughout the State of Louisiana, and my summary testimony today will focus on the value of coastal Louisiana wetlands, the ongoing loss of those wetlands, and the Fish and Wildlife Service's role in addressing that serious problem.

As you know, the President, and Secretary Lujan, have made it clear that the Service considers the loss of wetlands a serious problem. They plan to deal with that problem at their level and are encouraging our efforts throughout the Service to enhance wetlands in our program areas.

As you know, coastal Louisiana encompasses over 40 percent of the vegetated estuarine wetlands in the Lower 48 States, so this area is of national importance to fish and wildlife.

Louisiana's coastal wetlands winter 20 to 25 percent of North America's puddle duck population, so conserving those wetlands is essential to the success of the North American Waterfowl Management Plan here on the Gulf Coast.

Louisiana's coastal wetlands also provide habitat to many other species of wildlife who remove pollutants from coastal waters, and reduce storm-related type of pollutants.

Between 1956 and 1978 Louisiana did lose about 50 square miles per year of its coastal wetlands. The Corps of Engineers estimated that another one million acres of wetlands will be lost by the year 2040 here along the Coast of Louisiana. So this continued wetland loss is expected to severely impact fish and wildlife resources that are of financial and international importance.

The Service is involved in a variety of activities that are designed to conserve Louisiana's coastal wetlands. The remaining portions of my statement will describe each of these activities.

The Service administers six National Wildlife Refuges in coastal Louisiana. Management of those refuges includes measures to preserve, restore, and/or enhance wetlands.

Under the authority of the Fish and Wildlife Coordination Act, the Service is actively involved in the planning and evaluation of Corps water resource development projects throughout coastal Louisiana. The Service strongly supports the completion of the Caernarvon, Davis Pond, and Bonnet Carre Freshwater Diversion Project. Those projects will reduce coastal marsh loss by about 110,000 acres over the next fifty years. We have also urged the Corps to make maximum use of material developed during maintenance of navigation channels to create marsh.

The Service believes that Corps' water resources program should be a major tool for creating and restoring wetlands. We have recommended that the Corps implement several wetland restoration projects in coastal Louisiana under existing congressional authorities.

The Service also recommends measures to mitigate wetland losses caused by Corps water resource projects and activities required for permits. The Service's mitigation goal for wetlands is usually no net loss of habitat value. To achieve that goal the Service first recommends ways to avoid or minimize wetland losses associated with individual projects. If losses are likely, the Service then recommends ways to reduce or eliminate those losses over time. If losses remain likely, the Service recommends that those losses be compensated by the placement of wetland habitat values. This can be accomplished by restoring another alternate site to wetland habitat, or by managing wetland habitat elsewhere to improve its value to fish and wildlife.

The Service is also advocating most stringent regulation of oil fuel—discharge to reduce damages to sensitive wetlands. We are working with the Corps and other agencies to begin developing a comprehensive wetlands plan for coastal Louisiana. We have also worked closely with the Louisiana State Parks to develop and update the Louisiana Wetlands Priority Conservation Plan.

The Service often in cooperation with the Soil Conservation Service provides technical assistance to private landowners throughout coastal Louisiana to help them better manage their wetlands, especially through the use of water control structures, and other means that would help reduce salinity, and offset subsidence. We are also assisting the U.S. Department of Agriculture in the use of the Water Bank Program, as Horace pointed out, to restore and enhance wetlands in Southwestern Louisiana. About 3,400 acres of threatened wetlands are now being preserved and enhanced in Cameron Parish just south of us, under ten year Water Bank contracts that were signed in fiscal year 1988. Continuing the implementation of the Water Bank Program in coastal Louisiana, we believe, can play a major role in wetland restoration in that area.

In 1989 the Service's National Wetlands Research Center and the U.S. Geological Survey initiated a five year Louisiana Wetlands Loss Study to better understand wetland loss, and to develop best management practices for the wetlands of Southeastern Louisiana. Construction of a facility to house the National Wetlands Research Center in Lafayette, Louisiana is expected to begin in 1990.

The implementation strategy for the North American Waterfowl Management Plan calls for Federal and State acquisition in management of 52,000 acres of wetlands in Southwestern Louisiana, and 100,000 acres in Southeastern Louisiana. We also have plans to purchase 18,000 acres for the Bayou Sauvage National Wildlife Refuge near New Orleans when funds are available. The other wetland conservation activities I have identified already, will also help to achieve the goals of the North American Waterfowl Management Plan here along the Gulf Coast.

To summarize, the Service is involved in numerous activities affecting Louisiana's coastal wetlands. The loss of those wetlands is severe. It threatens fish and wildlife resources of national and international importance, and we believe that a coordinated effort by Federal, State, and private interest is essential if we are to successful deal with this very serious problem.

Mr. Chairman, this concludes my statement, and I will be happy to answer any questions that you might have.

Mr. NOWAK. Thank you very much, Mr. Fruge. I now go to Dr. Nancy Foster for her testimony.

Ms. FOSTER. Thank you. I am representing the National Oceanic and Atmospheric Administration today, and I appreciate the opportunity to be here to discuss wetland issues, and specifically those that pertain to Louisiana.

If you do not mind, with your permission, in the interest of time, I will simply submit my prepared statement, and I will summarize.

I have never been told that people could not hear me before. Better?

I was just indicating that if it is all right with the committee, I would simply summarize my remarks.

I do not have to tell this group today about the value of wetlands. In fact, if you look at the testimony from all of the people sitting at this table, you will find plenty of facts and figures to attest to that value. In fact, I think perhaps the most amazing thing about this panel is that you have five Federal agencies whose facts and figures seem to agree. I think that does not reflect so much on us as it is a comment on the universal acceptance of the seriousness of the problem that we all face with regard to wetlands.

I think you have to agree with Mr. Breaux when he indicated that Louisiana's problems are, in fact, national problems. I mean, if you look at fisheries in Louisiana, you find that nearly all the commercially and recreationally important fisheries are estuary independent, and if you look at landings in Louisiana, in particular, you find that 25 to 30 percent of total U.S. landings by weight are Louisiana, and that their landings comprise 10 to 15 percent of the U.S. dockside values. Probably more than a third of the shrimp harvest in the U.S. comes from Louisiana waters.

And we estimate that if you look at commercial fish landings alone, from Louisiana alone, you can figure on looking at about a $50 million a year loss over the next twenty years, which is no small thing.

I would like to mention just briefly how NOAA is involved in these wetland issues. The National Marine Fisheries Service, which is a component of NOAA, has a responsibility for the stewardship of living marine resources. We are responsible for habitat conservation, we are responsible for the management of fisheries out to 200 miles, we manage marine endangered species, marine mammals. And since we figure that about 98 percent of all the commercial fish landings, and 70 percent of the recreational landings from the Gulf of Mexico, consist of species that are dependent on estuarine habitats, figures that conservation of those habitats would be one of our principal objectives.

As you just heard from the Fish and Wildlife Service, when we go about looking at the impacts of activities that might affect these wetlands, it is our objective to maintain existing wetlands at the very least. And it is only as a last resort that we look to replacing wetlands that we are losing with those which we assume will be functionally equivalent.

Now, we believe you accomplish this best through a sequenced mitigation process. If you look at the Clean Water Act, and the CEQ Regulations, you find that same philosophy prevails there. In fact, we believe it's a common sense philosophy that says if you believe the wetlands, the habitat is critical, then the first thing you do is look to avoid the impact, and you make a thorough analysis of alternatives. And it is only when you find that you cannot avoid the impact, that you look to minimize the effects, and then finally as a last resort that you look toward restoration creation, or substitution of wetlands.

Now, it is our concern for this last idea of creation restoration and substitution, concern for this concept, concern for the fact that sometimes it is not a last resort, but rather it is a first resort, because of our concern for that we focused a great percentage of our research on this area. We are looking to do work that will allow us to establish criteria for defining acceptable replacement habitat, and for evaluating the success of the current restoration and creation efforts, and we are concerned about two important points with regard to the latter.

We are concerned about the persistence of created restored wetlands. Just because you plant it and it grows, we find that sometimes when you come back six months, a year, two, three years later, it might not be there, or the standing crop may be reduced, which implies that you are losing productivity. So persistence is a concern, and then, of course, we are concerned with the functional equivalency of the habitat that you are creating.

We do not want to find ourselves in a situation forty years from now where we look around and find that we have traded productive natural habitats for less productive mitigated habitat with an intended loss in fishery productivity.

We get involved in wetland issues also through our authority under the Fish and Wildlife Coordination Act, and the Clean Water Act. Our regional staff spends most of their time providing technical and scientific advice to permitting agencies with regard to habitat conservation. And if you look at the years between 1981 and 1987, our regional staff in the Southeast alone evaluated over 31,000 Corps Section 10 and Section 404 permit applications, affecting over 300,000 acres of habitat.

Among these permit applications, were requests to impound over 120,000 acres of wetlands of which over 100,000 were in Louisiana alone, and most of these impoundment requests were for marsh management projects.

Now, needless to say, in NOAA, the National Marine Fishery Service is not the only component that does work that is focused on wetland issues, but most of that information is in my prepared testimony. I might just mention for the record that one of the key elements of NOAA that focuses on generating information that is useful in this arena, is our National Sea Grant Program, and the Louisiana Sea Grant College Program is particularly active in this area. In fiscal year 1988 they provided Federal funding for over $325,000, and the State provided matching funds up to about $240,000, so over $500,000 went into wetlands research through the Sea Grant Program.

One other point, NOAA is responsible for the National Coastal Zone Management Program, which you are very familiar with here in Louisiana. I think you will hear a lot about that later on with the State panel, so I will not take time to discuss that now. But I will be pleased to answer any questions that you might have.

Mr. Nowak. Thank you very much, Doctor. I wanted to have all the witnesses testifying. That gives us a little broader opportunity to ask some questions.

One that comes to mind because of the experience we had this morning in the coastal wetlands area——

One of the areas that we were reviewing this morning was at the Rockefeller Foundation Preserve, with which I am sure you all are familiar. And we were talking to some of the people there. One of the struggles we were trying to discuss, how we looked at this problem in broad aspects, and knowing the limitations, I understand that we have in Louisiana probably 500,000 acres under government control, and we can actively exercise some general permitting powers in that area.

The other areas which consist probably of ten times that, the wetlands area I am talking about, is privately held. I wonder if you could give me an idea of how many acres are——

Is anybody on the panel familiar with those numbers?

General Sands. I do not have the specific numbers. I would submit there are many large land holdings, but I also would say that there are significant—a very small numbers of very small holdings throughout the entire area.

Mr. Nowak. Do we have a number for all the States which we are talking about?

Mr. Austin. The number that is usually used, Mr. Chairman, for the gross number of coastal marsh acres is 3.2 million acres. And then out of that would be taken the acreage that you just mentioned, and I would just hazard a guess that we are looking somewhere around 95 percent of the coastal marsh area is privately owned land.

Mr. Nowak. Well, we looked at that vast area. Even if we did perfect work, we would only restore under our "control"—talking about 5 percent probably. And under the 404 permitting process it becomes——

Mr. Thomas. Maybe I misunderstood the question, but it is my understanding that there is probably 700,000 acres that are currently under some sort of marsh management practices. Those practices a lot of times have to have water manipulation, and in many cases will have to have a—some sort of dam that would have to be built in order to facilitate the manipulation. I thought that those were the figures that I had heard in the past. Then significant large numbers, and they are privately owned, but they come under the 404 program. You would have to have a permit in order to discharge these materials in the wetland areas.

Mr. **Nowak**. And the permitting then, or programming, is aimed at that 95 percent. Is that correct? The question that came up was the length of time, and how cumbersome it was, to give most of your position—in most of your positions, or your agency position you have the common period that you come in and look at each one of these permits. Is that correct, for the private sector?

And the question was it takes so long, and wetlands have not been put into active management because of length of time it takes for Federal due process—Federal permitting process. I wonder if you could comment on that general—and if there is anything further we should be doing or looking at.

Mr. **Thomas**. Let me key off, and I am sure others have some concerns also, because you have hit on a key issue in the marsh management practices, and the length of time in order to secure a permit for what is perceived to be a beneficial use in order to manipulate somehow that large acreage of wetland area to bring it back to a more viable wetland functions.

We have been starting to talk about what functions are you looking at in order to try to accommodate, but the—I think that what we—we are recognizing that there are various concerns among the agencies of the ability of those management units to bring back the marsh area, and so consequently we are studying—I know you have heard about—we have got lots of studies going on, but these are ongoing now, and they are bringing information in on a daily basis of what vegetation is it growing, how is it growing, how is it prospering from manipulation of water. I think we are going to have the answers to you very shortly, but those things are what are slowing up the process, I think, in the permitting process, in my opinion.

Ms. **Foster**. My point that I think is sort of—there are two issues really. One is the question of marsh management practices themselves, and the fact that not everyone has reached a point of agreement as to the benefits of any types of those practices, so you have the different agencies still looking for answers, and that is part of the problem.

The other problem of—that we in Washington—we have been having some meetings to discuss the question of how we are going to approach this no net—this situation of the no net loss objective, and something that always comes up in this discussion is the fact—is the length of time it takes to go through the permitting process because of the various Federal agencies, and I think that you might find also that when the task force is put together this will be one of the items on the agenda, and that there might be something done through that process.

Mr. **Nowak**. Let me turn to Congressman Hancock.

Mr. **Hancock**. Thank you, Mr. Chairman. As you know, I am going to have to depart here at about 3:30 p.m., and quite frankly I appreciate you keeping the record open so we can submit additional questions under those circumstances. I would like to hear some other testimony before I have to leave.

I also would ask, Mr. Chairman, that after I leave that you allow counsel to ask any pertinent questions that he might want to ask.

Mr. **Nowak**. Let me turn now to Jim Hayes.

Mr. **Hayes**. Thank you. We, of course, have appreciated in the past working with all of your agencies, and in most cases with you individually.

General Sands, if we are talking about the role of the Corps, which I think is going to be the thrust, of what will be the role of the Corps. Right now there are many people who are saying that they will be—or should be redefining the mission to include the protection of wetlands. I wondered what your feelings would be toward that, and toward your position as to whether that is something the Corps itself supports, and the resources of the Corps to handle such admission if the answer to that first question is yes.

General **Sands**. As you know, we participate in wetlands protection measures in conjunction with a project for navigation, flood control, or shore protection. Adding wetlands protection to our additional water resources responsibilities would by and large give us the ability on an individual basis to recommend a single project that specifically relates to that particular activity. Adding that particular purpose to our mission, would just mean that as a primary project purpose it would be evaluated along with the other purposes for a unique water resources project.

Mr. **Hayes**. In our experience most of the comments by the time they reach your offices in Washington are of large projects like Moniker's Spillway. Based upon your— what are the activities that you think have been best in combatting excessive erosion? Is it the large projects, or have you found similar success, or greater, lesser success, in small individual projects?

General **Sands**. I think you are going to have a combination of both. When you deal with the diversion of freshwater sediments from the Mississippi River, you will have situations where both large projects and small ones will have an effect. It depends on the particular location.

This is a situation that really requires a comprehensive approach, and more importantly, an educational process. A recognition of the importance of the resource is needed, as is the knowledge of what things are being done by any particular individual that may negatively impact that particular resource.

Mr. **Hayes**. Which leads me in looking at mission statements, quite often we enter into discussions about the possibility of using the freshwater diversion of the lower Mississippi for so many of our problems, especially the Chappala Basin problems. In your experience with the Corps, is this—first of all, is this a goal that makes sense to you? Can we, in fact, actually build wetlands, in your opinion, from diversion programs?

General **Sands**. Yes, sir. We are building wetlands now. The freshwater diversion projects that we are undertaking will retard saltwater intrusion. Some sediment also will be diverted by those projects, but that is basically incidental. The three projects that we have on the drawing boards right now are not designed as sediment diversion projects. However, we do think that the sediment diversion project would have a positive impact in this area.

Mr. **Hayes**. So you think that—lower basin to really make a visible impact? Are the goals reachable, in your opinion?

General **Sands**. It will certainly have a visible impact. The processes of diverting sediment might be very costly. The process of diverting freshwater is very costly, but we are dealing with a very nationally significant resource.

Mr. **Hayes**. Rather than—and I know that because it is a—we will be hearing a lot of witnesses. I will not belabor this. Once again, I will also ask—I will probably follow with some written questions. Let me, therefore, conclude my questions to this panel, which was touched upon earlier by Congressman Nowak, the permit process. I will ask—I would really like all of you to tell me based upon your actual experience, what would you outline as the tools to reach the goal of streamlining that process, and integrating the state process within it.

In other words, if you had total authority within your own shop to say "here is how we would move forward better," and "here is at what level the state permit process would best be integrated so that we do not have to do everything several times and cut down upon the time from start to finish," I would just like each of you to tell me what those things would be.

General **Sands**. If you just look at the regulations and the time frame for the public interest review process, you realize it is a very difficult process. However, we do try to meet the goal of issuing a permit in 60 days.

As I indicated earlier, the New Orleans District has a joint permitting process with the State of Louisiana for water quality certification and consistency with the coastal zone management process.

The permit processes for Louisiana are on the same track right now. I think any improvement in time frame for processing the permit will involve the individual agencies and the public. If you expect those will be———

Mr. **Hayes**. Ms. Foster, same thing. I was interested in your views.

Ms. **Foster**. I am sorry?

Mr. **Hayes**. What I am talking about is not public comment period. That is clearly part of that process that is indispensable. I am talking about two and a half and three years. We are going to hear testimony this afternoon from people who are going to say for three years I have been seeking a permit. Now, I am not saying it should be granted. Maybe it should be denied. What I understand is I find it incredible to believe that three years can go on where either there is not a resolution to deny it, or a resolution through granting. I do not—it is your expertise. I would not attempt to try to involve myself in the merit, but I would think these legitimate folks would try to find a mechanism that involves itself in timeliness, and in disposing of application one way or another.

Ms. **Foster**. Part of it—part of the process, I think, that sometimes causes problems is the issues are not identified as early as they might be because people do not—we need to come up with some way that people are talking to each other much earlier in the process. The issues are identified, and then try to start working towards a resolution earlier in the process.

And I think that also we have discussed the fact that once you get to the point where you start developing even more this idea of the comprehensive plan, that this can be built into that, this concern about the length of time. This is not the only situation where that is brought up as a serious problem, as I indicated, and it has been commented on many times that people are looking toward this task force on no net loss to resolve that issue. I am not sure that is appropriate either.

Mr. **Hancock**. Same question, but in a different form, what do you see as the State's role in involving itself in an overall plan?

Mr. **Austin**. And this is in our process we developed—private land ownership which the private landowner expresses his views relative to the values he wishes to preserve, and in most cases those values are to preserve the land areas.

And as was indicated in the testimony, the—material project indicated there that in 1953 that project had a total area of 7,000 acres, and 15 acres were open water area. In 1985 that same 7,000 acres had over 2,600 acres of open water. Then the question comes when you go into developing a plan for that, are you going to build a plan that impacts the habitat area when it had no open water, or do we try to preserve a certain impact on habitat that now exist once we are working with the deteriorated area.

These are some things I think we have got to work out among the viewing agencies relative to what constitutes impacts that we really are dealing with here, and first and most of all, to look at the views of the private landownership relative to what they wish to preserve in their resource.

Now, in regards to the State, we can approach this type of thing in terms of getting some type of consensus relative to the overall preservation that we want to incur—we, I say collectively, everyone in the State that we see—the way that we view the resource idea, and what we want to try to achieve in terms of reducing this rate of degradation. That consensus, I think, will lead to a strong policy that will guide a lot of the reviews that will be—impact on the permitting process.

Mr. **Hancock**. Before we give you an unfair question, I will not do that. I will tell you what I will not ask you. What I was flirting with asking you was do you think Rockefeller would be better off going through the process you just heard, or are you glad they are under a general permit, but I will not ask you that. Instead I will let you answer the other question in whatever manner you wish.

Mr. **Fruge**. I would just like to add some things to what Horace has said. I think that three things could really be done to speed up the permitting process as it regards the marsh management program. As I understand the program, greater attention, technical assistance provided by the Swamp Restoration Service, Fish and Wildlife Service, or from the delta land owners, developers, better land plan fact-finders. Then I think you should bring all the common agencies together in a preapplication stance so that we get many of the bugs worked out before we go for the last stage. And then finally, I think, if the researchers do a better job documenting what we think is a clear success of certain automatic practices it would be easier for some of the agencies that can put that forth to go along with these projects. This is kind of my viewpoint.

Mr. **Hancock**. Mr. Thomas, can you leave out the word turtle at any time during your next statement.

Mr. **Thomas**. I am sorry. I do concur, I do concur with the other portion. I would like to start off by saying that I concur with, Congressman, with David Fruge, in that probably that is the one area where there are a lot of problems with securing a permit in a timely manner. I am not going to put the blame all on the PA but I think there is a function which spread the whole gambit of all of us along here that we are interested in flood control, commercial fisheries, wildlife and water quality, sediment controls. All of us have some functions that we are primarily interested in that feed into the decisionmaking processes on issues of permit. Those, I think, are the exception. Hopefully they are the exception as far as delayed permitting actions, but they are extremely complex and I think that they deserve us some time to really make sure that we are doing it correctly.

The monitoring afterwards, I think, is a very good suggestion. Once it is done I am not quite sure whether we have done the real thing or the right thing, so let us monitor it and cause the applicant to give information over a period of time to check and see if it does comply with what you have asked us to do. So put a condition on the permit that there will be some monitoring.

I think that it is an opportunity to speed up some of the other projects also if we make better use of the general permits. We do have a lot of general permits, permitting actions, that go through the New Orleans District. It would be impossible for them to do individual permitting actions on all that they receive. It would be impossible for us to review all of those. Even those that they do on an individual basis, we have a cutoff because we do not have the people to really spend the time, so we look for the biggest bang for the buck that we can get out of the review. I think that there is an opportunity through the advanced identification process that is available to us in certain areas to identify those more sensitive weapon areas and concentrate on those and let the public know, and let land owners know up front, that they are more sensitive and that you will have a more difficult time in getting a permit than you would in some other area. So you identify up front those sensitive areas. Also each district seems to work differently as far as the processing. For example, you will hear approximately next week from the Galveston area and they hold a joint processing meeting every two weeks to go over many of the projects that they feel they are having some problems with. Thank you, sir.

Mr. **Hancock**. Thank you. As I said I may take advantage of the opportunity to ask some written questions and I appreciate your responses, and in light of our lengthy panel I will conclude at this time. Thank you.

Mr. **Nowak**. Thank you, Congressman Hayes. Let me introduce another member from Louisiana who has been very impacted and is very active in this area and has thought through very definitely legislation addressing these problems as well as someone who has been in contact with this subcommittee expressing his concern. Doing more than offering some very thoughtful solutions to this problem, from Southeast Louisiana, Bill Tauzin. Billy.

Mr. TAUZIN. Thank you, Mr. Chairman, and I want to apologize first for arriving late. I am coming from the area where you are going to have your next meeting coming up. Let me, if I might, have a couple minutes to explore a couple of thoughts with all of you.

First of all, the first thought that comes from all of the testimony that I have reviewed just now, is that if we do nothing in Louisiana, if we were to adjourn this meeting today and stop all activities with regard to Wetland preservations, Wetland creation, Wetland concern we would undeniably continue to lose 40 to 50 square miles per year through, and by virtue of, the causes that you have outlined in similar testimony today. Mandating activities of living off the river, natural activities in terms of sea life, geo-syncline, the sinking of the marshes, intrusion of saltwater with the mandate canals. All of these characteristics have together, produced, this incredible national disaster.

If we did nothing and we continue, as if man had in effect walked away from it, much of the delta that is South Louisiana, would be gone. New marshes would be established further north. New Wetlands would be established at the sea.

I note from your testimony, Mr. Thomas, that that is one of the strategies you mention, that you could purchase near coastal farmlands that can be readily converted to marshlands. As though the strategy of your Wetland loss from Louisiana, is to simply create more and to seek those that we have customarily, traditionally enjoyed in the South. That is the first point. It is half of it. We do nothing, it continues to happen.

The second point. Is it not correct that the EPA's and the Court's general stand, [if you could see me, Tommy, before you leave, your service to this country.], is it not true that the main regulatory effort we make in Wetlands is a 404 point system? I think the answer is, yes.

Is it not also true that the 404 Wetland permit system is a system that basically is one of testimony, Tommy, provides for the issuance or denial of permits, which will allow or disallow the placement of dredge or fuel materials into waters of the United States, waters being Wetlands as well? Areas that have Wetland characteristics? Is that not correct?

Mr. TANNER. That is correct.

Mr. TAUZIN. And then, step three. If the 404 permit system is the means by which you regulate weapon activities, and it is principally designed to decide whether or not to put dredge or fuel material into Wetlands, and the general rule is you do not do that. Right?

Mr. TANNER. That is right.

Mr. TAUZIN. Then we are left with a system of protecting our Wetlands which basically says, we should not put dredge or fuel materials into the Wetlands. We should not in effect have too much of man's activities in the Wetlands. Therefore, and here is the point that I am coming to, that discourages me somewhat. The mentality, the structure of the only regulatory system we have for Wetland management is one that discourages man's activities to put dredge or fuel materials out there, instead of one that might encourage you to do the things you used to do, take dredge and fuel material as the fuel comes out in the rivers and to use it to restore the Wetlands, the marshes of our great State.

In effect, the system we have created on a national level, works now in an opposite way to which we need to do in South Louisiana if we are going to keep our Wetlands. The mentality of the system is designed to prevent us from doing that which nature would have done, and do it more, and since it would deny us the right to do that, we are committed to lose it all. Unless we change the system. Is that an incorrect analysis? Do you want to try to respond to it?

Mr. **Tanner**. I am going to have to respond to you as Norm Thomas now, and my interpretation of the Clean Water Act. And the Clean Water Act as far as interpretation is, it is a prohibition act. It prohibits the discharge of any pollutant in the waters of the United States. And a dredge material, a material going into waters of the United States, including Wetlands. Wetlands are an act of violation, without a permit.

Mr. **Tauzin**. Right.

Mr. **Tanner**. Section 404 does allow. The same that occurs that Section 402 of the Clean Water Act. You cannot allow a pollutant of, from a discreet discharge point to go into waters of the United States, without a permit.

Mr. **Tauzin**. I think that is an appropriate response. That the acts we have are prohibitive in nature.

Mr. **Tanner**. Yes, sir.

Mr. **Tauzin**. They prohibit man's activities, in effect, it would in some cases in South Louisiana duplicate, or try to artificially do what nature would be doing had we no levies. We would be depositing pure materials to try to stop the sea from encroaching upon us. Now, if that is correct and if we are not going to be relegated to a strategy that simply says we are going to lose what we are going lose, and we can only create more up north. In effect, we have to move.

If we are not going to be relegated to that strategy, if we are going to have a new strategy that says we can fight to save what we have, then do we not need to change the system, at least as South Louisiana is concerned? Do we not need a new system that gives to the state of Louisiana, or actually to the Federal agency, the right and means not to prohibit but to encourage land owners to do those things which may involve putting fuel or dredge material in the right places? That will stop the encroachment of the sea? Is that not correct?

Mr. **Tanner**. I think you are absolutely correct, Congressman. I think that the opportunity with the no net loss and the application of the no net loss, you can in fact look for gains. The gains from each individual operation. To get a little bit more out of each action so that you can start recovering those areas that have lost a natural——

Mr. **Tauzin**. Let me turn to Tommy. Tommy, you and I know we do not have enough money in the Federal Treasury to ever provide all the money it would take for the Federal Government to do all the programs we need to do to stop the encroachment of the sea. Is that not pretty generally correct?

General **Sands**. Yes, sir.

Mr. **Tauzin**. And the Corps does not have, not only does not have the money, but does not have the time to put all those projects together to stop it. Right?

General **Sands**. That is correct.

Mr. **Tauzin**. Then, will you not conclude with me that unless we do some very important things that one, permit and two, encourage land owners to do those things to protect their own property to save it from the sea, that we are going to lose it?

General **Sands**. That is correct.

Mr. **Tauzin**. All right. Here is where I'll try to put it all together. If all that is correct, then how would you react to proposals that Senator Breaux, and I, are beginning to formulate, that would give to the State of Louisiana several important new authorities? First of all, the State to adopt a plan of action. Not to retreat but to try to fight and save it. Secondly, that we create in Louisiana, the right of our landowners to own more. The right to actually expedite infringements that were clearly designed to stop the encroachment of the sea. To save the marshes from erosion.

Third. Mitigation factors, when landowners did these things they would earn mitigation credits in banks to encourage them to do it. Perhaps even tax deductible expenditures, some encouragement in the tax pool that would encourage landowners to fight to save the land, rather than let it go. And maybe even authority to zone our coastal land in a real way. To say that there will be non-inhabitable areas that we are just going to fight to save. We will have certain types of uses not including dwellings, permanent dwellings.

Then we will have other areas where we will fight over whether we are going to have permanent dwellings or not, and other areas where we have permanent dwellings. And we will have different rules of permitting each one that will make sense in the context of saving our lands, our homes, the place we call South Wet, Louisiana, if I say it correctly, rather than giving it up to deceit. How would you react to a strategy like that on the Federal level that would accord the State of Louisiana the right to fight on those kind of terms?

General **Sands**. I think that the State of Louisiana, as everyone has indicated, has played, and must continue to play, a key role in the development of whatever comprehensive strategies are developed to try to retard coastal land loss. As long as the State's activities can be accomplished in accordance with the various Federal laws that deal with clean water, it certainly makes sense. This could result in the use of more Federal general permits.

Mr. **Tauzin**. Yes.

General **Sands**. You could do this very easily. As the Constitution indicates, zoning is a local responsibility. Those local responsibilities must take into consideration the impact man on the coastal environment and its relative degree of importance to their livelihood. It is a major element in protecting what remains of Coastal Louisiana.

Mr. **Tauzin**. Dave, how can you—I would also like, just one point, if you would be thinking about it Dave. I would like a response from you. You have spent a lot of your life here so I would like for you to respond, just tell me.

Mr. TANNER. I would like to respond. I am going to have to ask you to take these as also Norm Tauzin, because any response to Senator Groat's bill would have to come from our headquarters and this is a field operation and hearings.

Mr. TAUZIN. I understand.

Mr. TANNER. But I do have some opinions that may help and strengthen. I think you are going in the right direction. I think that there is great merit. We encourage the States to receive delegation of responsibilities under the Clean Water Act. Section 404 is one of those that has been, the States have been reluctant. I think Louisiana is wanting, I think that they want the responsibility, I think that they want to have the control of their own destiny and they want to have their own rules and regulations in order to operate and save their Wetlands and coastal areas. The three points that were brought up by Senator Breaux were that you first were looking at a restoration plan, the large plan to help. The other was a funding and I will not get into either one of those. But as far as the permitting is concerned, there are at this time regulations and a law on the books that tells you how you get the delegation of responsibility through the Clean Water Act.

Mr. TAUZIN. We are talking of changing that.

Mr. TANNER. Yes.

Mr. TAUZIN. We are talking about the State proposing in Congress a change in those laws so that Louisiana would, in fact, have new authority to set up its own regulatory regime.

Mr. TANNER. The case, I think, that you need to make is that you are unique and that you are of national concern and need to have a different type of approach.

Mr. TANNER. Yes.

Mr. TAUZIN. That may be the mechanism. As I see it, it is an exception to the existing rule for the Act that is in existence.

Mr. TAUZIN. Mr. Fruge, do you have any comments about it?

Mr. FRUGE. Yes, I would like also, I would like to add that these are my personal comments and thank you. I am very pleased to take the liberty to be able to talk about them. I would like to add that for planning purposes public value associated with marsh lands, wildlife value, fish values, and so on. And any way we can encourage private sector to help to do the job, like somebody said before we have somewhere between 80 and 90 percent of that marsh is privately owned. So I am all for having the Senate help provide for it.

One other thing, Mr. Chairman, one other thing I would like to add was that, if there is a, and this also refers to Congress, but if there is a regulatory program that would be assumed by the State of Louisiana I would like to see my Fish and Wildlife Service have continuing consultation role, particularly under the Fish and Wildlife Coordination Act.

Mr. TAUZIN. Well, I think that that direction, in fact, the point of our scheme as we had devised it, there would always be consultation between Federal agencies. The concern, however, is at recognizing the unique situation we face. No one else in the country faces anything like it. And the extraordinary difficulties of working with a permitting program that is prohibitive in nature. And unless we come up with some new and unique regulatory regimes for Louisiana we are going to lose it.

Mr. HAYES. Will the gentleman be——

Mr. TAUZIN. I would be more than happy to hear my good friend.

Mr. HAYES. The question was asked at the suggestion of Congressman Tauzin only a month or so ago the Chairman was presiding over a hearing where the Director Reilly appeared before us. And I asked him in terms of the President's statement at Lake Michigan of no net lose, if he felt that the word net did not, in fact, suggest that as a matter of national policy there were occasions in which you would in fact have to through the placing of barriers technically destroy wetlands in order to preserve wetlands that would otherwise be lost. And his answer was yes that that was his definition of what the word net means. In light of that answer, then it appeared to me to be consistent both with the policy we seem to be moving toward which clearly requires something done to avoid a loss and the philosophy that was stated in the Senate version of the Breaux Bill and whatever differences or similarities in concept of proposal that Congressman Tauzin spoken of. So I suggest that the new director is thinking in the same philosophical terms too. Not of absolute prohibition but that the value of a program has to be weighted upon its goals, its success, and most importantly the consequences of doing nothing. And that is clearly what Director Reilly was saying in earlier testimony, and thank the gentleman for yielding.

Mr. TAUZIN. Thank you, I could probably make one final point, Mr. Chairman, and I do apologize for taking so much or your time, but I have also been told by land owners, by conservationists, preservationists, and the like that it would cost a great deal less for us in Coastal Louisiana to save an acre of Wetlands than it would be to create one almost anywhere else in the country including South Louisiana. That the cost, if you are looking at it, I see you shaking your head Ms. Foster, the cost of in fact this "no net loss" program would be more efficiently spent in saving wetlands that are going to be lost to nature in South Louisiana than it would be met anywhere else in America in trying to create wetlands where none exist now. And if that is true then even that argues in terms of our budget problem and whatever program, Federal or State, that we put together for such a change in assistance by which Louisiana can take, as you said, control of its own destiny. Mr. Chairman, thank you for the time.

Mr. NOWAK. Thank you, Congressman. I would appreciate also if you would stay and have someone here for the testimony of our two next panels so that any comments they may have on Federal programs, for instance, criticisms or suggestions you could also answer for us without us going back to you. In other words you could prepare a summary and comment on their comments, by which we could take that, and we'll simply look for that. Come forward as soon as you're able to bring that back to us in the morning.

Thank you very much for your information. And we want to at this point, I think, we've been sitting here for a couple of hours, and the helicopter ride is starting to catch up to me.

I would like to take a ten minute break and also we're having a little trouble with the speaker system up here. I guess the audience can hear. Is that right? We're just going to change.

Mr. HANCOCK. Could I have about a minute?

Mr. NOWAK. Yes. Congressman Hancock is going to have to leave, and he just would like to just say one last comment.

Mr. HANCOCK. Thank you very much, Mr. Chairman. I would just like to say this is my first trip to this area of Louisiana. I am certainly impressed with it. It looks like a great area. And I appreciate the courtesy extended to me by the people in the area here, the McClaine State University, Congressman Hayes. I have enjoyed everyone. If I have an opportunity to come back, maybe I can bring one of the Congressmen here. Thanks very much.

Mr. NOWAK. Thank you, Congressman. We will stand adjourned for ten minutes. Thank you.

[Recess.]

[The prepared statements of General Sands, Mr. Austin, Mr. Thomas, Mr. Fruge, and Ms. Foster follow:]

U.S. ARMY CORPS OF ENGINEERS
LOWER MISSISSIPPI VALLEY DIVISION
COMPLETE STATEMENT OF
MAJOR GENERAL THOMAS A. SANDS
BEFORE THE
WATER RESOURCES SUBCOMMITTEE
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION

Mr. Chairman and members of the Subcommittee, I am Major General Thomas A. Sands the Lower Mississippi Valley Division Engineer.

I am pleased to be here this morning to discuss activities of the Army Corps of Engineers within coastal Louisiana. As you requested in your letter of invitation, I will describe our wetlands preservation construction, design and planning activities and our regulatory activities.

The State of Louisiana contains 40% of the Nation's coastal wetlands; however, Louisiana is experiencing nearly 80% of the Nation's annual loss of coastal wetlands. Between 1956 to 1978 coastal wetlands in the state were lost to open water at an average rate of approximately 40 square miles per year. Ongoing studies indicate that this average rate of loss might have declined to 35 square miles per year, which still indicates a very critical problem.

Louisiana's coastal wetlands are part of a tremendously productive ecosystem. The wetlands support 30% of the Nation's commercial fish and shellfish harvest. Louisiana's marshes support the largest wild fur and hide harvest of any state in the Nation. These same wetlands support intensive recreational use and provide wintering habitat for 66% of the waterfowl that use the Mississippi Flyway.

The continued loss of Louisiana's coastal wetlands will have significant adverse impacts on the Nation's economy. A 27% loss of coastal wetlands is expected to occur over the next 50 years (1990-2040). This loss is expected to result in a decline in commercial fisheries harvest, the wild fur and hide harvest, and recreational activities. This wetland loss will also threaten approximately 155 miles of Federal navigation projects, 55 miles of Federal hurricane protection projects, as well as highways, oil and gas facilities and utilities.

Natural coastal and deltaic processes coupled with human activities have accounted for the rapid loss of Louisiana's coastal wetlands. The long-term forces of subsidence, sea-level rise, saltwater intrusion, and erosion have been responsible for the natural loss of wetlands. Subsidence causes the wetlands to sink. Rising sea levels cover the wetlands with additional water. Together, the sinking land surface and rising water surface account for much of the wetland loss. These factors intensify saltwater intrusion and erosion and accelerate the conversion of wetlands to open water.

The activities of man in Louisiana's coastal wetlands have also contributed significantly to wetland loss. Indispensable flood protection in the flood-prone lower Mississippi Valley and nationally important economic development in Louisiana's wetlands have caused wetland loss. Flood control levees along the Mississippi and Atchafalaya Rivers have confined these rivers and changed the natural annual hydrologic regime in which the rivers overflowed their banks each spring, flooding adjacent marshes with nutrient- and sediment- rich water. These sediments and nutrients would build and sustain the diversity of the wetlands. The deepening of these rivers for navigation has resulted in the deposition of millions of tons of sediment in the deep waters of the Gulf of Mexico each year rather than in shallow bays where wetlands could develop. Louisiana's wetlands are laced with 8,200 miles of navigation, drainage, and petroleum-access canals. Wetlands are lost during excavation of these canals and are buried as the dredged material is piled next to the canals. These canals segment the wetlands and expose them to erosion. Saltwater quickly flows into the wetlands through these canals causing even greater erosion.

We have been, and continue to be, actively involved in constructing, designing, and planning wetland preservation, restoration, and enhancement projects within coastal Louisiana. As a result of the disposal of shoal material dredged during maintenance of navigation channels within the coastal area, approximately 3,000 acres of marsh has been created over the last 15 years. Up to 18,000 acres of marsh will be created over the next 50 years as part of the construction and maintenance of the recently completed 45-foot deep increment of the Mississippi River Ship Channel, Gulf to Baton Rouge, Louisiana project. As opportunities arise, shoal material from maintenance of other navigation channels will be used to create additional marsh.

Studies indicate that saltwater intrusion in the Louisiana Coastal Wetlands can be reduced by diverting freshwater from the Mississippi River through structures in the mainline levee into the adjacent wetlands at strategic locations. Pursuant to the authority provided in section 201 of the Flood Control Act of 1965, the Secretary of the Army approved implementation of the Caernarvon Freshwater Diversion structure and the Davis Pond structure. The State of Louisiana has voluntarily agreed to share in the cost of the Caernarvon structure and the State of Louisiana is the non-Federal sponsor on the Davis Pond structure. Construction has begun on the Caernarvon Freshwater Diversion Structure which will preserve and enhance 16,000 acres of marsh and produce an average annual increase in commercial fish and wildlife production of $6,700,000 within the Breton Sound Basin over the 50-year project life. Advanced engineering and design is underway on the Davis Pond Freshwater Diversion Structure. This project will preserve 83,000 acres of marsh and produce an average annual increase in commercial fish and wildlife production of $10,900,000 within the Barataria Basin over a 50-year project life. Additional studies to further abate saltwater intrusion resulted in Construction Authorization for the Mississippi-Louisiana Estuarine, Bonnet Carre' Freshwater Diversion Structure in the Water Resources Development Act of 1988, (P.L. 100-676). Cost sharing requirements for the projects are currently under review. Preconstruction engineering and design is continuing on the Bonnet Carre Freshwater Diversion Structure. This diversion project would preserve 10,500 acres of marsh and swamp and produce an annual average increase in commercial fisheries production of $7,900,000 within the Lake Pontchartrain Basin and the western Mississippi Sound over the 50-year project life. Shoreline protection features are being considered along the Mississippi River - Gulf Outlet Project that would reduce the projected dramatic increases in shoaling rates and protect 1,700 acres of marsh from erosion over the 50-year project life.

Three interim studies which address the coastal wetlands problem are underway as part of the Louisiana Coastal Area study which was authorized by resolutions of the Public Works Committees of the United States Senate and House of Representatives. Pursuant to the Water Resources Development Act of 1986, feasibility studies under this authority are being cost shared 50/50 with the state of Louisiana. The Louisiana Comprehensive Coastal Wetlands Study is in the reconnaissance phase and has as its purpose to define how various wetland preservation, restoration, and enhancement projects will be identified or formulated and then integrated into a Comprehensive Plan to address the National problem of wetland loss in coastal Louisiana. The Land Loss and Marsh Creation Study, presently in the feasibility phase, is considering the advisability of creating marsh with dredged material not presently used for that purpose, because of the increased cost. In addition, the study is evaluating the large- and small-scale diversion of river sediments as a marsh creation technique. As part of this study, an economic analysis of the value of marsh has been conducted and is presently undergoing review. The Shore and Barrier Island Erosion Study did not identify economically feasible improvements or modifications of existing improvements that would provide shore and barrier island erosion control along Louisiana's coast. However, the alternative plans of improvement that were identified will be considered further under the Louisiana Comprehensive Coastal Wetlands Study. The Atchafalaya Basin Water and Land Resources Study is in the feasibility phase. Its purpose is to investigate alternatives to enhance development of marsh within the actively growing Atchafalaya Delta, while at the same time maintaining the navigation and flood control functions of the Atchafalaya River.

The New Orleans District has one of the largest regulatory programs of any District in the Corps. The decision whether to issue a permit is based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. Evaluation of the probable environmental, economic, and social impacts which the proposed activity might have on the public interest requires a careful weighing of all factors. The benefits which reasonably may be expected to accrue from the proposed action must be balanced against its reasonably foreseeable adverse impacts. The permit will be issued unless the District Engineer determines that it would be contrary to the public interest, or it does not comply with the 404 (b)(1) Guidelines. Where appropriate, the permit application may be modified to minimize or prevent damage to the wetlands. An example would be the requirement that an applicant construct a board road over the wetlands rather than dredging an access canal. Whenever there is a less damaging practicable alternative site for a dredge and fill activity the permit applicant may be required to use the site. In some instances the permit applicant will be required to consider technical alternatives that could reduce canal construction. The most obvious is directional drilling in light of the fact that most offshore drilling is now done this way. The New Orleans District has a joint program with the Coastal Management Division of the Louisiana Department of Natural Resources and the Louisiana Geologic Survey to deal with drilling permits. The three agencies meet with the permit applicant to determine the technical, environmental, and economic feasibility of directional drilling on a proposed well. Taken together, these regulatory procedures serve to reduce the loss of wetlands while still allowing prudent development. In addition, regulatory personnel inspect permitted work to insure it conforms to permit specifications.

There is no doubt that coastal erosion and the loss of wetland is a very serious problem. It deserves a coordinated and comprehensive attack to reduce the rate of loss. We in the Army Corps of Engineers stand ready to accomplish any environmental engineering tasks that the Congress and the Administration deem appropriate.

Mr. Chairman, that concludes my statement. I will be happy to answer any questions that you or members of the Subcommittee might have.

Statement of Horace J. Austin, State Conservationist
Soil Conservation Service (SCS)
United States Department of Agriculture (USDA)
USDA Testimony before the Subcommittee on Water Resources
of the Committee on Public Works and Transportation
Lake Charles, Louisiana
May 12, 1989

Mr. Chairman and members of the Committee, I am Horace J. Austin, State Conservationist for the Soil Conservation Service in Louisiana. It is my pleasure to have the opportunity to speak on the USDA soil and water conservation activities in the coastal wetlands in Louisiana.

First, I would like to summarize the history and development of the soil and water conservation program in the coastal areas, and then discuss the programs we currently have underway in Louisiana. I will be glad to answer any questions after my testimony.

ROLE AND MISSION OF THE SCS IN COASTAL WETLANDS

The Soil Conservation Service is charged with providing national leadership in the conservation of soil, water and related resources through a cooperative program that protects and improves those resources.

In Louisiana, the Soil Conservation Service has 52 field offices providing direct assistance to 43 soil and water conservation districts. In the coastal area of Louisiana, we have 10 field offices working with 9 soil and water conservation districts. These local district boards each consists of 5 board members who develop district priorities and goals.

At the local level, SCS conservationists provide on-site assistance in solving specific soil and water resource problems of landusers. The Agency's highest priority is reduction of erosion on agricultural land, implementing the conservation provisions of the Food Security Act of 1985. A second priority is to improve and protect the quality and quantity of surface and ground water.

In the early 1980s the Soil Conservation Service, in response to requests by landowners, soil and water conservation districts, and other agencies in the state, began to accelerate the technical assistance available to landowners in the coastal area. However, implementation of the Conservation Title of the 1985 Farm Bill has taken priority and slowed down the acceleration of assistance to the coastal area.

CONSERVATION PLANNING ASSISTANCE

The assistance provided to landowners is in the form of conservation planning.

All conservation plans in coastal areas are developed with landowners using an SCS team, normally consisting of an engineer, biologist, agronomist, soil scientist and soil conservationist. This team provides the landowner with alternatives for solving his or her resource problems. The selected conservation plan reflects the decision of the landowner relative to conservation objectives. Other federal and state agencies have participated with the SCS team in planning, which has strengthened the planning process.

The key to the successful development of plans has been the willingness of state and federal agencies in Louisiana to participate in interagency reviews of the plans. These reviews have helped to resolve problems early in the permitting process where implementation requires a Section 404 permit by the Corps of Engineers and/or the designated state agency.

Over 90 percent of the coastal marshes in Louisiana are privately owned. Soil and water conservation districts now have 2.5 million acres of this privately owned coastal marsh under cooperator agreement. Over 700,000 acres have conservation plans developed waiting implementation.

PRIORITY CONCERN - RESOURCE DEGRADATION

Louisiana's valuable coastal wetlands are nationally significant. Louisiana's commercial fishery landings rank number one in the nation in tonnage; average 1.9 billion pounds. This represents 30 percent of the total fishery harvest of the United States. The fur trapped in the coastal wetlands of this state represents 40 percent of the total U.S. value. Louisiana accounts for 88 percent of the total U.S. alligator harvest.

I. VEGETATION AND THE ROLE OF THE NEW GOLDEN MEADOW PLANT MATERIALS CENTER

The use of diverse and stable vegetative communities is a key consideration in the marsh conservation planning process. It has been demonstrated that vegetative plantings retard the conversion of marsh to open water; reduce the erosion of lake shorelines, canal banks, dunes, or other marsh-water interfaces; and promotes the re-establishment of emergent wetland vegetation.

Erosion and land loss are a product of human activities and natural geologic changes. Navigation channels, mineral exploration canals and other hydrologic alterations have completely rearranged the marsh landscape and historical water movement patterns. The natural system of high bank distributaries and smaller meandering streams has been criss-crossed by deep channel systems linked directly to the Gulf of Mexico. Freshwater flow from the natural levees and upper basin areas moves rapidly via the new system of channels and is no longer distributed in such a way as to buffer and protect the fresh to intermediate marshes. During periods of high seasonal salinities and low rainfall, saltwater intrudes inland through these same canals. In many areas, vegetative die-offs have occurred. These areas convert quickly to massive mud flats or permanent open water. Proper water management has been utilized to benefit rapidly eroding marsh areas. A pilot project called the Fina LaTerre Area in Terrebonne Parish is an example of this type of marsh improvement through water management. In just three years following the installation of a system of control structures, this area has experienced a net gain of 6 percent (300 plus acres) in marsh area. Adjacent non-managed areas have experienced no change during the same period.

In areas lacking plants that tolerate increased salinity or deeper permanent water levels, selected vegetation must be introduced. The LaBranche area in St. Charles Parish is one example of how such plant introduction can benefit a rapidly deteriorating marsh. Smooth cordgrass (Spartina Alterniflora) was introduced into this area in 1984. Historically, this marsh was dominated by fresh to intermediate vegetation. However, saltwater intrusion and increased tidal flux resulted in severe marsh erosion and conversion to large open water areas. The smooth cordgrass has spread rapidly from the small test plantings and has colonized throughout a large portion of the shallow water. In 1985 the Soil Conservation Service set up the Louisiana coastal marshlands plant materials field laboratory at Golden Meadow.

In October 1988, it was officially established as a USDA plant materials center. The Golden Meadow Plant Materials Center was dedicated on April 22, 1989.

SCS in Louisiana is actively expanding our coastal revegetation efforts through the opportunities associated with the new Golden Meadow Plant Materials Center.

II. WATER MANAGEMENT CAPABILITY - THE KEY TO MARSH RESTORATION

Water management capability also is a consideration in any alternative marsh restoration endeavor. Large freshwater diversions, mini-freshwater diversions, vegetative plantings and other alternative restoration practices are linked to water management capability. Water management capability provides a degree of control of water levels, salinity levels, and sediment-organic deposition. Water level management for vegetative plans does not necessarily require levee impounding areas.

III. SOIL CONSERVATION SERVICE AUTHORIZED PROJECTS

The watershed protection program authorized by Public Law 83-566 administered by the Soil Conservation Service has been used in two watershed areas of coastal Louisiana to address marsh erosion, water management and resource treatment needs. The recently completed Cameron-Creole Watershed Project in Southwestern Louisiana involved the installation of levees, water control structures and vegetative plantings for protection of over 113,000 acres of coastal marshlands. Two additional watershed project plans have been developed through cooperation with local sponsors in Terrebonne and Lafourche Parishes. The West Fork Bayou L'Ours and Bayou Penchant-Lake Penchant projects will collectively benefit over 176,000 acres of fresh, intermediate and brackish marshes. These two projects have been approved for operations with authorization for federal technical assistance only.

The West Fork Bayou L'Ours authorized $639,200 of federal funds for technical assistance and $2,698,600 needed from non-federal sources to install the planned measure. The Bayou Penchant-Lake Penchant project authorized $859,000 of federal funds for technical assistance and $5,437,700 needed from non-federal sources to install the planned measure. No federal or local funds have been made available to begin work on either of these projects.

IV. THE WATER BANK PROGRAM

The Water Bank Act (Public Law 91-559) was enacted on December 19, 1970. Its purposes are the reduction of the continued loss of wetlands and the restoration and improvement of wetlands in important migratory waterfowl breeding areas. The Agricultural Stabilization and Conservation Service administers the program with technical input from the SCS, U.S. Fish and Wildlife Service and several state agencies. Prior to 1988, the program priorities were directed to preserve existing wetlands in the upland areas. In 1988, the program was expanded to include restoring wetlands in the coastal marsh.

Currently, only freshwater, non-tidal wetlands are eligible for the program.

V. MONITORING COMPLETED MARSH CONSERVATION PLANS

In cooperation with other agencies and private landowners, selected marsh conservation plans are being monitored by SCS to document the effectiveness of installed conservation systems. Selected data are monitored and include salinity, water levels, vegetative community responses, erosion reduction, and fish and wildlife population/harvest levels. As I mentioned earlier, this approach is proving beneficial for the Fina-LaTerre conservation plan area in Terrebonne Parish. In the three year period since completion of the conservation practices, there has been a gain in marshland area of 6 percent. Water levels are more stable, aquatic and emergent vegetative communities more diverse and productive, and there has been an overall increase in fish and wildlife productivity.

Mr. Chairman, this concludes my remarks. I will be glad to answer any questions.

STATEMENT OF
NORM THOMAS
CHIEF, FEDERAL ACTIVITIES BRANCH
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 6
DALLAS, TEXAS
BEFORE THE SUBCOMMITTE ON WATER RESOURCES
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION
U.S. HOUSE OF REPRESENTATIVES
MAY 12, 1989
LAKE CHARLES, LOUISIANA

GOOD MORNING, MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE, I AM NORM THOMAS, CHIEF OF THE FEDERAL ACTIVITIES BRANCH, OF THE ENVIRONMENTAL PROTECTION AGENCY, REGION 6 OFFICE, IN DALLAS, TEXAS. MY PREPARED REMARKS THIS MORNING WILL ADDRESS THE REGION'S ROLE IN WETLANDS PROTECTION, WITH SPECIAL EMPHASIS ON THE ISSUE OF LOUISIANA'S COASTAL LOSS.

THE LOUISIANA COASTAL AREA CONSISTS OF FIVE TO SIX MILLION ACRES OF MARSH, SWAMPS, NATURAL LEVEE FORESTS, CHENIERS, OPEN BAYS AND OTHER WATER-BODIES, BARRIER ISLANDS, AND OTHER UNIQUE WETLAND HABITATS. THESE AREAS ENCOMPASS 40 PERCENT OF THE COUNTRY'S COASTAL WETLANDS. CREATED BY THE NATION'S LARGEST RIVER, THE MISSISSIPPI, WHICH DRAINS 41 PERCENT OF THE 48 CONTIGUOUS STATES PLUS SIGNIFICANT AREAS OF TWO CANADIAN PROVINCES, THIS COASTAL ZONE IS BY FAR THE LARGEST AND MOST ACTIVE DELTAIC LAND MASS IN NORTH AMERICA.

THE MOST SIGNIFICANT ADVERSE IMPACTS ASSOCIATED WITH LOUISIANA'S WETLAND LOSS ARE BIOLOGICAL AND ECONOMICAL. SPECIFICALLY, THE COASTAL WETLANDS OF LOUISIANA ARE ONE OF THE MOST PRODUCTIVE ECOSYSTEMS IN THE UNITED STATES. EACH YEAR, LOUISIANA'S MARSHES ACCOUNT FOR:

- A COMMERCIAL FISH AND SHELLFISH HARVEST WORTH $680 MILLION;
- 40 PERCENT OF THE NATION'S WILD FUR AND HIDE HARVEST WORTH $17 MILLION;
- 66 PERCENT OF MIGRATORY BIRDS USING THE MISSISSIPPI FLYWAY FOR WINTERING HABITAT ALONG LOUIAIANA'S COAST, PROVIDING WATERFOWL HUNTING VALUED AT $58 MILLION; AND
- RECREATIONAL FISHING REVENUES EXCEEDING $337 MILLION.

AT THE PRESENT, HOWEVER, COASTAL LOUISIANA IS EXPERIENCING INCREASING WETLAND LOSS, WETLAND ALTERATION, AND WATER QUALITY DEGRADATION. LAND LOSS ATTRIBUTED TO A COMBINATION OF NATURAL AND HUMAN-INDUCED PROCESSES THREATENS THE FUTURE OF LOUISIANA'S COASTAL WETLANDS. THE RATE OF LOSS IS NOW ESTIMATED TO BE 80 PERCENT OF THE NATION'S ANNUAL LOSS OF COASTAL WETLANDS. THIS LOSS TRANSLATES INTO AN AVERAGE LOSS OF 40 SQUARE MILES EACH YEAR.

HISTORICALLY, BEFORE THE 1920's, THE BIOLOGICAL AND PHYSICAL FACTORS WHICH CONTRIBUTED TO WETLAND DEVELOPMENT OR LOSS HAD BEEN NEARLY IN BALANCE ALONG THE LOUISIANA COAST, RESULTING IN WETLAND GAIN AND SOME PERIODIC EPISODES OF LOCALIZED WETLAND LOSS. CURRENTLY, HOWEVER, WITH THE EXCEPTION OF THE ATCHAFALAYA, THE AMOUNT OF SEDIMENTS DEPOSITED BY RIVERINE SYSTEMS OR ACCUMULATED BY BIOLOGICAL PROCESSES APPEARS TO BE LESS THAN NECESSARY TO MATCH THE COMBINED PROCESSES OF SUBSIDENCE AND RELATIVE SEA LEVEL RISES AND WAVE EROSION. THE ARMY CORPS OF ENGINEERS, AT THE DIRECTION OF CONGRESS, HAS FOR DECADES MANAGED THE MISSISSIPPI RIVER PRIMARILY FOR NAVIGATION AND FLOOD CONTROL. TO THIS END, THE CORPS HAS BUILT GUIDE LEVEES AND JETTIES CONFINING THE LIFE-SUSTAINING SEDIMENTS TO THE CHANNEL AND TRANSPORTING THESE SEDIMENTS TO THE DEEP GULF OF MEXICO WATERS. MOST OF THESE SEDIMENTS ARE THEREFORE LOST FROM THE COASTAL ZONE AND ARE NOT AVAILABLE FOR CONTINUED DELTA BUILDING.

AT THE SAME TIME THAT THE RIVER WAS HARNESSED, THE WETLANDS WERE BEING DIRECTLY AFFECTED BY CANAL DREDGING AND WETLAND CONVERSION ACTIVITIES. CANALS, ORIGINALLY DREDGED PRIMARILY FOR DRAINAGE AND NAVIGATION, NOW ARE OVERWHELMINGLY RELATED TO THE PETROLEUM INDUSTRY. OIL RIG CANALS, PIPELINE CANALS, AND DEEP-DRAFT NAVIGATION CANALS FOR OIL INDUSTRY SUPPORT VESSELS HAVE LEFT LINEAR SCARS UPON THE FORMALLY PRISTINE WETLANDS. CONVERSION OF WETLANDS FOR AGRICULTURAL, URBAN AND INDUSTRIAL EXPANSION HAS ALSO CONTRIBUTED TO FURTHER LAND LOSS. THE NATURAL PROCESSES CITED AS CONTRIBUTORY TO LAND LOSS RATES INCLUDE SUBSIDENCE, SEA LEVEL RISE, AND WAVE EROSION, THOUGH NO SINGLE CAUSE CAN BE IDENTIFIED AS THE MAJOR CULPRIT.

IN NOVEMBER 1986, A NATIONAL OFFICE OF WETLANDS PROTECTION WAS ESTABLISHED BY EPA IN AN EFFORT TO PLACE GREATER EMPHASIS UPON THE PROTECTION OF WETLANDS. CONCURRENT WITH THIS ACTIVITY, THE REGIONAL OFFICE BEGAN TO RE-EMPHASIZE WETLANDS PROTECTION IN LOUISIANA. THE REGION 6 WETLAND PROTECTION PROGRAM WAS DEVELOPED SIMILARLY TO OTHER REGIONS AND ENCOMPASSES PERMIT REVIEW, ENFORCEMENT, ADVANCE PLANNING AND PUBLIC OUTREACH. REGION 6 DESIGNATED WETLAND LOSS IN COASTAL LOUISIANA AS A SPECIAL INITIATIVE EARLY IN THE ESTABLISHMENT OF THE WETLANDS PROGRAM. THE REGION'S APPROACH TO THE WETLAND LOSS PROBLEM WAS ADDRESSED FROM SEVERAL PERSPECTIVES INCLUDING:

1. PLANNING EFFORTS
2. REGULATORY EFFORTS
3. RESEARCH AND PROTOTYPE STUDIES

THE REGION TOOK AN ACTIVE ROLE IN EARLY PLANNING EFFORTS, MOST NOTABLY THE CORPS OF ENGINEERS' COMPREHENSIVE ACTION PLAN, AND THE STATE OF LOUISIANA'S MARSH MANAGEMENT STATEGIES. OUR PARTICIPATION IN THESE PLANNING EFFORTS IS TO ENSURE THAT ALL WETLAND VALUES ARE CONSIDERED AND THAT CONSISTENCY WITH THE REGULATORY PROGRAM IS MAINTAINED.

UNDER SECTION 404 OF THE CLEAN WATER ACT, THE ARMY CORPS OF ENGINEERS (CORPS) AND EPA JOINTLY ADMINISTER A PERMIT PROGRAM THAT PROVIDES FOR THE ISSUANCE OF PERMITS THAT ALLOW THE PLACEMENT OF DREDGED OR FILL MATERIALS INTO WATERS OF THE UNITED STATES. OUR REGULATORY EFFORTS HAVE FOCUSED ON THE REVIEW OF OVER 1000 INDIVIDUAL SECTION 404 COASTAL PERMITS EACH YEAR

FOR COMPLIANCE WITH THE 404(B)(1) GUIDELINES. THE GUIDELINES APPLY SITE SPECIFIC CRITERIA FOR ESTABLISHING APPROPRIATE CONDITIONS TO MINIMIZE UNACCEPTABLE EFFECTS ON THE AQUATIC ECOSYSTEM. A MEMORANDUM OF AGREEMENT WITH THE CORPS AND EPA PROVIDES A PROCESS FOR RESOLVING ISSUES. IT IS RECOGNIZED THAT EPA HAS THE ULTIMATE AUTHORITY WITH REGARD TO PROHIBITION OF DISCHARGES INTO WATERS OF THE UNITED STATES.

WITH REGARD TO RESEARCH AND PROTOTYPE STUDIES, REGION 6 HAS WORKED DILIGENTLY TO ADVANCE THE DATA BASE NECESSARY TO MAKE DECISIONS. SOME OF THESE PROJECTS PARTIALLY FUNDED BY EPA ARE AS FOLLOWS:

1. INITIATING A CUMULATIVE IMPACT ASSESSMENT OF THE PEARL RIVER BASIN INCLUDING COASTAL AREAS.
2. CONDUCTING AN ADVANCED IDENTIFICATION STUDY OF PRIORITY WETLANDS NEAR THE PEARL RIVER.
3. OBTAINING DESIGNATION OF THE BARATARIA BAY BASIN AS A NATIONAL ESTUARY PROJECT.
4. DEVELOPING A PROTOTYPE HANDBOOK FOR WETLAND MANAGERS FOR EVALUATING OIL AND GAS ACTIVITIES.
5. AERIAL PHOTOGRAPHY AND PHOTOINTERPRETATION OF COASTAL LOUISIANA.
6. A FRESHWATER MARSH MANAGEMENT STUDY SITE IN THE ATCHAFALAYA BASIN.

7. THE PLANT MATERIALS LABORATORY TO DEVELOP METHODS OF ESTABLISHMENT AND DISPERSAL OF APPROPRIATE SPECIES OF VEGETATION FOR USE IN ERODING MARSHES.

8. THE NEAR COASTAL WATERS PILOT PROJECT IMPLEMENTING TERRACING TECHNIQUES FOR RESTORATION AND EROSION CONTROL IN SHALLOW BAY AREAS; AND CONSTRUCTION OF SEDIMENT DIVERSION STRUCTURES.

9. MONITORING OF BRACKISH MARSHES UNDER "MANAGEMENT" TO DETERMINE THE EFFECTS OF WATER LEVEL MANIPULATION.

10. THE CANAL SPOILBANK REMOVAL AND WETLAND RESTORATION PROJECT.

THE WETLANDS PROTECTION PROGRAM MEETS THE ENVIRONMENTAL THEMES THAT HAVE BEEN ENUNCIATED BY THE NEW EPA ADMINISTRATOR, WILLIAM REILLY. THESE ENVIRONMENTAL THEMES INCLUDE: CONTROLLING POLLUTION; RENEWING OUR COMMITMENT TO NATURAL RESOURCE CONSERVATION; AND BETTER ENFORCEMENT. THESE THEMES ARE CONSISTENT WITH THE FINDINGS OF THE NATIONAL WETLAND POLICY FORUM WHICH WAS PUBLISHED LAST FALL. THE RECOMMENDATIONS OF THE FORUM CALLED FOR INCREASED PLANNING EFFORTS, DEVELOPMENT OF STATE WETLAND PROTECTION PLANS, AND INCREASED LEVELS OF ENFORCEMENT. THE FORUM ALSO RECOMMENDED A GOAL OF "NO OVERALL NET LOSS" OF THE WETLAND RESOURCE IN TERMS OF ACREAGE AND FUNCTION. PRESIDENT BUSH HAS CALLED FOR THE ESTABLISHMENT OF AN

INTERAGENCY TASK FORCE UNDER THE DOMESTIC POLICY COUNCIL TO RECOMMEND WAYS TO REVISE THE EXECUTIVE ORDER ON WETLANDS AND STRENGTHEN AGENCY ACTIVITIES WITH RESPECT TO WETLANDS. WE ARE READY TO WORK WITH OTHER AGENCIES TO SORT OUT THE MANY COMPLEX ISSUES THAT WE FACE IN IMPLEMENTING THIS CONCEPT.

IN THE REGION, OUR EFFORTS FIND A TWOFOLD FOCUS. WE ARE CONTINUING TO EXAMINE PROJECTS REQUIRING INDIVIDUAL SECTION 404 PERMITS AND WE ARE ALSO EMPHASIZING ACTIVITIES IN AREAS SUCH AS COASTAL EROSION WHICH ARE BEYOND THE SCOPE OF THE SECTION 404 PROGRAM. ADDITIONALLY, IN COASTAL LOUISIANA, WE ARE PROMOTING LARGE AND SMALL FRESHWATER AND SEDIMENT DIVERSION PROJECTS TO CREATE WETLANDS OR ENHANCE DEGRADED WETLANDS; REQUIRING IMPROVED MANAGEMENT PRACTICES TO REDUCE WETLAND LOSS; EVALUATING THE EFFECTS OF WATER CONTROL PRACTICES; AND EXPLORING THE BENEFICIAL USES OF DREDGED MATERIALS. THOUGH THESE ACTIVITIES MAY OFFSET THE LOSS OF PERMIT RELATED WETLANDS, THEY WILL NOT OFFSET THE ESTIMATED ANNUAL LOSS OF 40 SQUARE MILES. A LONG TERM ACTION PLAN MUST CONSIDER A WIDE VARIETY OF MEASURES FOR SLOWING THE RATE OF WETLAND LOSS INCLUDING THE CONSIDERATION OF NOT ONLY DIVERSION, ENHANCEMENT, AND EROSION CONTROL PROJECTS; BUT ALSO THE NEED FOR PURCHASE OF NEAR COASTAL FARMLANDS THAT CAN BE READILY CONVERTED TO MARSHES.

WE HAVE EXPANDED OUR WETLAND PROTECTION PROGRAM ACTIVITIES OVER THE LAST TWO YEARS AND ARE NOW INVOLVED, TO SOME LEVEL, IN ALL ASPECTS OF

WETLAND PROTECTION. SPECIFICALLY, WE HAVE AN ACTIVE ENFORCEMENT PROGRAM; WE ARE INVOLVED IN FOUR ADVANCED IDENTIFICATION STUDY EFFORTS AND ONE COMPREHENSIVE PLANNING EFFORT FOR ALL OF COASTAL LOUISIANA; WE ARE PROVIDING TECHNICAL OVERSIGHT OF THE CORPS PERMITTING EFFORTS; WE ARE ALSO INVOLVED IN PUBLIC EDUCATION THROUGH OUR PUBLIC OUTREACH PROGRAM; AND WE ARE ENCOURAGING STATE AND LOCAL PLANNING EFFORTS IN MANAGING COASTAL AREAS.

THIS CONCLUDES MY FORMAL REMARKS, I WOULD BE PLEASE TO ANSWER ANY QUESTIONS YOU MAY HAVE.

IMPACTS OF LOUISIANA'S COASTAL LOSSES

- PROMOTES/INTENSIFIES SALTWATER INTRUSION AND EROSION FURTHER ACCELERATING CONVERSION TO OPEN WATER.
- LOSS OF MIGRATORY AND RESIDENT WATERFOWL HABITAT.
- LOSS OF HABITAT FOR FISH AND WILDLIFE INCLUDING THREATENED AND ENDANGERED SPECIES.
- LOSS OF SPAWNING AND NURSERY GROUNDS FOR MARINE FISH AND SHELLFISH PRODUCTION.
- LOSS OF HABITAT (FOOD AND SHELTER) FOR FURBEARERS AND OTHER WILDLIFE.
- LOSS OF RECREATIONAL FISHING, HUNTING, AND WATER ORIENTED RECREATION.
- LOSS OF COMMERCIAL FISHING AND WATERFOWL HUNTING.
- LOSS OF WATER QUALITY ENHANCEMENT FUNCTIONS (REMOVAL OF SILT, FILTERING OUT WATERBORNE CHEMICALS AND NUTRIENTS).
- LOSS OF BUFFER AGAINST STORM FORCES AND WAVES.
- LOSS OF PROTECTION AGAINST WAVES AND SHORELINE EROSION AND PROPERTY DAMAGE.
- LOSS OF FLOOD STORAGE CAPACITY.
- LOSS OF GROUND WATER RECHARGE.

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STATEMENT OF MR. DAVID FRUGE, FIELD SUPERVISOR, U.S. FISH AND WILDLIFE SERVICE, LAFAYETTE, LOUISIANA, BEFORE THE SUBCOMMITTEE ON WATER RESOURCES, COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION, U.S. HOUSE OF REPRESENTATIVES, REGARDING WETLAND LOSS ALONG THE LOUISIANA COAST

MAY 12, 1989

Mr. Chairman and members of the Subcommittee, my name is David Fruge. I am supervisor of the U.S. Fish and Wildlife Service (Service) Field Office in Lafayette, Louisiana. This field office is involved in extensive wetland conservation activities throughout Louisiana. My testimony will focus on the value of Louisiana's coastal wetlands to fish and wildlife resources, the ongoing problem of wetland loss in coastal Louisiana, and how the Fish and Wildlife Service is involved in addressing that problem.

As you already know, the President and Secretary Lujan have made it clear to the Service that the loss of wetlands is a problem. They plan to deal with it at their level and aré encouraging our efforts throughout the Service to enhance wetlands in our program areas.

FISH AND WILDLIFE VALUES

Recent inventories have shown that coastal Louisiana contains nearly 2.5 million acres of marsh and about 637,000 acres of forested wetlands. Wetlands border the entire Gulf of Mexico shoreline of Louisiana, and extend inland more than 60 miles at some locations. Salt marshes occur nearest to the Gulf of Mexico, and grade into brackish, intermediate, and fresh marshes as one moves inland. Forested wetlands occur inland from the fresh marshes. This vast wetland complex encompasses over 40 percent of the vegetated estuarine wetlands in the lower 48 States, and is of national importance to fish and wildlife. Largely because of its extensive coastal wetlands, Louisiana accounted for 28 percent of the nation's commercial fishery landings in 1986. More than 3.1 million saltwater sport fishing trips were made in Louisiana in 1986, and a large portion of that effort was in pursuit of fish that rely on the coastal marshes as nursery habitat.

Louisiana's coastal wetlands winter 20 to 25 percent of North America's puddle duck population. Therefore, conserving those wetlands is considered essential to achieving the goals of the North American Waterfowl Management Plan along the Gulf Coast. The Gulf Coast is one of six key areas in the United States where "joint ventures" have been established to facilitate cooperative waterfowl habitat conservation efforts involving Federal, state, and private interests.

Much of the best waterfowl habitat in the Gulf Coast Joint Venture Area is located in coastal Louisiana. Louisiana's coastal wetlands provide important habitat to many other migratory birds. During a 1983 survey, about 175 nesting colonies of wading birds, seabirds, and shorebirds were observed in coastal Louisiana. Other functions served by these wetland areas include assistance in maintaining water quality by acting as filters to remove pollutants from coastal waters and reduction in hurricane-related tidal surges and associated property damages.

WETLAND LOSS

From 1956 to 1978, Louisiana lost about 50 square miles (32,000 acres) per year of its coastal wetlands. That loss was dominated by the conversion of marsh to open water. Saltwater intrusion is also reducing the value of the remaining freshwater wetlands as habitat for wintering waterfowl and other wildlife.

The loss and degradation of Louisiana's coastal wetlands is continuing at a rapid rate. The Corps of Engineers (Corps) has estimated that another 1 million acres of those wetlands will be lost by the year 2040 unless action is taken to stem that loss. Needless to say, the Service is deeply concerned over this continuing, rapid decline of valuable coastal wetlands. Continued wetland losses are expected to severely impact fish and wildlife resources of national and international importance, as well as the associated recreational and commercial uses of those resources.

SERVICE INVOLVEMENT

The Service is involved in a variety of activities that are designed to conserve Louisiana's coastal wetlands. The remaining portions of my statement will describe each of these activities.

National Wildlife Refuge System

The Service administers six National Wildlife Refuges in coastal Louisiana. Management of those refuges includes measures to preserve, restore, and/or enhance wetlands. For example, water control structures are being operated on Sabine National Wildlife Refuge to reduce excessive tidal exchange and to curtail saltwater intrusion and its damaging effects on fresh, intermediate, and brackish marshes. On Delta National Wildlife Refuge, openings have been excavated in the banks of Mississippi River distributaries to foster creation of small subdeltas where marshes can be re-established in shallow open water. We have also allowed the Corps to create marsh on some of those refuges by careful placement of material dredged from adjacent navigation channels.

Consultation Activities

Under the authority of the Fish and Wildlife Coordination Act, the Service is actively involved in the planning and evaluation of water resource development projects carried out by the Corps throughout coastal Louisiana. The Service works closely with the Corps to plan projects intended to reduce coastal wetland loss, to restore wetlands by diverting Mississippi River sediments, and to restore historic salinity patterns in coastal wetlands degraded by saltwater intrusion.

The Service continues to strongly advocate expedited completion of the Caernarvon Project. The Service also supports the Corps' efforts on the Davis Pond, and Bonnet Carre Freshwater Diversion Projects. These needed projects would reduce coastal marsh loss by about 110,000 acres over the next 50 years. We have also urged the Corps to make maximum use of material dredged during maintenance of navigation channels to create marsh in open water and to increase growth of the emerging Atchafalaya Delta. We believe that the amount of marsh created during maintenance dredging along the Louisiana coast can be greatly increased.

As part of its consultation role for Corps water resource development proposals and applications for Corps permits pursuant to Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act, the Service also recommends measures to mitigate the loss of wetlands. The Service's mitigation goal for wetlands is usually no net loss of habitat value. To achieve that goal, the Service recommends ways to avoid or minimize losses of wetland habitat values.

If losses are likely, the Service recommends ways to reduce impacts or to eliminate them over time. If losses remain likely to occur, the Service recommends that those losses be compensated by replacement of habitat values. This can be accomplished by restoring the project site (onsite mitigation) or another altered site (offsite mitigation) to wetland habitat, or by managing the wetland habitat elsewhere to improve its value to fish and wildlife.

The Service is working closely with the Corps, and other Federal, State, and local agencies to begin developing a comprehensive wetlands plan for coastal Louisiana. Our personnel provided extensive assistance to the State of Louisiana's Coastal Restoration Technical Committee in preparing its August 1988 report on measures to maintain, enhance, restore, and create vegetated wetlands in coastal Louisiana. This report will be extremely valuable in developing a comprehensive wetlands plan for coastal Louisiana.

The Service has also actively participated in interagency planning efforts to increase wetland conservation success in the Barataria and Lake Pontchartrain Basins of southeastern Louisiana. We have also worked closely with the Louisiana Office of State Parks and other Louisiana Wetlands Acquisition Advisory Committee members to develop and update the Louisiana Wetlands Priority Conservation Plan, which identifies key wetland sites meriting protection. That plan was developed in accordance with Section 303 of the Emergency Wetlands Resource Act of 1986.

Technical Assistance to Private Landowners

In recent years, the Service has been providing technical assistance to private landowners in coastal Louisiana to help them better manage their wetlands. In Fiscal Year 1988, the Service provided technical assistance on 18 tracts involving more than 55,000 acres of coastal wetlands. The Service has been encouraging and assisting the Agricultural Stabilization and Conservation Service and the Soil Conservation Service in the use of the Water Bank Program to restore and enhance coastal wetlands in southwestern Louisiana. Approximately 3,400 acres of threatened wetlands are being preserved and enhanced in Cameron Parish under 10-year Water Bank contracts signed in Fiscal Year 1988. Fiscal Year 1989 funds have been allocated to restore approximately 4,000 acres of drained wetlands in Vermilion Parish under that program. The Service believes that continued implementation of the Water Bank Program in coastal Louisiana can play a major role in wetland restoration in that area.

Research Activities

Through an extensive habitat mapping effort completed in 1980, the Service's National Wetlands Research Center in Slidell, Louisiana, documented the dramatic losses of wetlands that occurred in coastal Louisiana between the 1950's and the 1970's. In 1989, the Service and the U.S. Geological Survey initiated a 5-year Louisiana Wetlands Loss Study to better understand the critical processes of wetland loss and to help develop best management practices for coastal wetlands in the Deltaic Plain of southeastern Louisiana.
The objectives of that study are: (1) on a coast-wide scale, to assemble and compile existing baseline data on physical characteristics into a computer-based

Geographic Information System (GIS); (2) to conduct field studies and collect remote sensing information for a sediment-starved and a sediment-rich hydrologic basin in order to better understand the physical processes controlling wetlands erosion, stability or maintenance, and wetland creation; and (3) to examine, at specific field sites, how wetland management practices alter the physical processes controlling wetland erosion, maintenance, and creation.

A re-inventory of Louisiana's coastal wetlands is underway using 1988 photography. Results of the update will aid in determining where, and to what degree, loss has occurred in the last 10 years, quantifying loss rates between the mid-1950's and the late 1980's, and delineating target restoration areas. A landscape model developed for the Terrebonne Basin is being adapted for use in the Barataria Basin to help managers evaluate alternative management approaches. Additional investigations are addressing:

(1) the effects of waterlogging, salinity and other stresses on marsh vegetation;

(2) contaminants, with emphasis on the effects of produced waters from oil and gas operations on marsh plants; and

(3) the effectiveness of various marsh management practices, particularly weirs and water level control.

The information derived from those investigations will be used to formulate recommendations, as necessary, on how or whether practices similar to these can be improved. We also expect the study to result in databases, management models, and a GIS network capability useful for local, state, and Federal needs in coastal Louisiana and expandable so as to serve the future needs of the entire Gulf of Mexico region. In addition, the study will generate atlas publications, synthesis reports and maps, and research publications focused on applications of the research to practical problems of wetlands loss in Louisiana.

The Service has awarded a contract to an architectural firm to design a facility to house the National Wetlands Research Center in Lafayette, Louisiana. Construction of that facility is expected to begin in 1990. The Service is also participating in a study of marsh management practices funded by the Minerals Management Service.

North American Waterfowl Management Plan

As part of the implementation strategy for the North American Waterfowl Management Plan in the Gulf Coast Region, land acquisition goals have been established by representatives of the Service, State wildlife agencies, and private conservation organizations. Those goals include the acquisition and management, by the Service and the Louisiana Department of Wildlife and Fisheries, of 52,000 acres of high priority wetlands in the Chenier Plain Region of southwestern Louisiana, and 100,000 acres of high priority wetlands in the Mississippi River Coastal Wetlands of southeastern Louisiana. The Service also has plans to purchase 18,000 acres for Bayou Sauvage National Wildlife Refuge when funds are available.

As my testimony has indicated, the Service is involved in numerous activities affecting Louisiana's extensive coastal wetlands. The loss of those wetlands is severe, and, due to its continuing nature, threatens fish and wildlife resources of international importance. We believe that a coordinated effort by Federal, State, and private interests is essential if we are to successfully deal with this serious problem.

Mr. Chairman, this concludes my prepared statement. I will be happy to answer any questions you may have.

STATEMENT OF

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NATIONAL MARINE FISHERIES SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

BEFORE THE

SUBCOMMITTEE ON WATER RESOURCES
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION
U.S. HOUSE OF REPRESENTATIVES

LAKE CHARLES, LOUISIANA
MAY 12, 1989

Mr. Chairman and Members of the Subcommittee:

Good morning. I'm Dr. Nancy Foster, Director of the Office of Protected Resources and Habitat Programs, National Marine Fisheries Service (NMFS). I appreciate the opportunity to appear before the Subcommittee today to discuss wetland programs of the National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce, and wetland issues in Louisiana.

Forty percent of the coastal marshes and 25 percent of the total coastal wetlands of the coterminous United States are located along Louisiana's coastline. Each year, Louisiana marshes produce commercial and recreational fisheries worth an estimated $680 million. In 1987, Louisiana, alone, produced 1.6 billion pounds of fish and shellfish, accounting for 26 percent of total U.S. commercial fish landings. Approximately four million ducks and geese winter in this area, providing waterfowl hunting valued at $58 million annually. Coastal wetlands also provide aesthetic and recreational enjoyment, protection from storm tides and waves, and help to filter sediments and toxic substances from agricultural and urban runoff.

Louisiana, alone, is losing its coastal wetlands at the rate of 25,600 to 38,400 acres a year. These losses result from both human-induced and natural causes. Between 1956 and 1978, about 560,000 acres of Louisiana's coastal wetlands were lost, mostly by conversion to open water. Over the years, another 790,000 acres have been converted to agricultural, urban, and industrial uses. The U.S. Army Corps of Engineers (Corps) estimates that between now and the year 2040, nearly one million more acres of Louisiana's wetlands will be lost. These coastal habitat losses threaten extremely valuable fish and wildlife resources. The economic loss associated with reduced commercial fish landings in Louisiana, alone, is estimated to be $50 million annually over the next 20 years.

THE NATIONAL MARINE FISHERIES SERVICE

As the steward of the Nation's living marine resources, NOAA's National Marine Fisheries Service is responsible for habitat conservation, the management of living marine resources in the U.S. Exclusive Economic Zone (from 3 to 200 miles offshore), and the protection of certain marine mammals and endangered species. Our habitat conservation responsibilities encompass coastal areas and estuaries, and upstream as far as necessary to protect anadromous species' spawning grounds. In carrying out this responsibility, our efforts are directed at protecting and conserving coastal, estuarine, and riverine wetland areas of the United States.

Estuarine and coastal wetlands provide habitat essential for the maintenance and productivity of the Nation's living marine resources. Approximately 70 percent of commercially and recreationally important fish and shellfish species in the United States spend a critical part of their life in estuarine and nearshore areas. These species, referred to as "estuarine-dependent", include red drum, menhaden, sea trout, flounder, shrimp, crabs, oysters, and clams. Many inland and riverine wetlands also support anadromous species, such as striped bass, herring, shad, salmon and sturgeon. Indeed, about 98 percent of all commercial fish landings and 70 percent of recreational landings from the Gulf of Mexico consist of species that are dependent on estuarine habitats, including wetlands.

Conservation of these habitats, therefore, is a primary goal of the National Marine Fisheries Service's Habitat Conservation Program. Habitat conservation activities are carried out nationwide as a part of our overall fisheries research and management program, and are guided by our Habitat Conservation Policy, which was published in the Federal Register in 1983. The goal of this Policy is to maintain or enhance the capability of the environment to support living marine resources under NMFS' purview. This goal is consistent with President Bush's stated goal of "no net loss" of wetland habitat. In fact, our habitat conservation efforts are not limited to only "wetlands", but encompass all habitats important to living marine resources.

In analyzing activities that may affect wetlands, it is NOAA's goal to maintain existing wetlands, and, only as a last resort, replace lost wetlands with those which are functionally equivalent. We believe this is best achieved by looking at mitigation as a sequenced process. First, we attempt to avoid the impact altogether by considering alternatives. If impacts are determined to be unavoidable, efforts should be made to minimize the effect, restore the affected habitat, reduce the impact over time, or, as a final option, replace the habitat.

The NMFS Habitat Conservation Program has a cadre of leading scientists who are developing the technical basis necessary to establish criteria for defining acceptable replacement habitat and evaluating the success of current restoration and creation efforts. Relevant research activities include studies of recruitment of larvae into estuaries; use of wetland habitats by fishery organisms; the extent to which fish and shellfish use detrital material; evaluation of impacts of altered freshwater inflow; research on the ecological value of mitigated and created habitats; and synthesis of information on wetland acreage and fishery species life histories.

In 1985, the Department of the Army and NOAA signed a Memorandum of Agreement initiating a three-year pilot study to look into the feasibility of a cooperative national program between NOAA and the Corps to restore and create fisheries habitats. The agreement combined our technical fisheries expertise with the Corps' water resource planning, engineering, and construction expertise and capability. Work done under this Agreement was conducted in conjunction with ongoing Corps projects and involved experimental modifications of project design in an effort to enhance habitat and thereby increase the production and abundance of important coastal fishery[1] species. The pilot study was completed last October, and final recommendations are expected in the near future.

Under the provisions of the Fish and Wildlife Coordination Act (FWCA) and the Clean Water Act. NOAA consults with the Federal water resource construction and regulatory agencies to provide technical and scientific advice for protecting, managing, and conserving habitats of living marine resources which may be altered by proposed activities. Since the formation of NOAA in 1970, we have provided analyses and recommendations on approximately 150,000 Federal projects and Federal permit and license applications. Between 1981 and 1987, staff of the NMFS Southeast Regional Office evaluated over 31,000 Corps Section 10 and Section 404 permit applications to dredge, fill, or otherwise alter over 300,000 acres of marine and coastal waters and wetlands. Among these permit applications, were requests to impound 121,474 acres of wetlands, of which 104,000 acres were in Louisiana. Most of these impoundment requests were for marsh management. There are increasing requests to allow construction of levees and water control structures, to "manage" marshes that are deteriorating due to man-made causes, erosion, or subsidence. We are working with State and Federal agencies and landowners to ensure that management plans benefit wetland vegetation and allow for continued access by marine and estuarine-dependent fish and shellfish. More than 65 marsh management plans have been proposed covering more than 550 square miles (370,570 acres) of Louisiana's coastal wetlands.

THE NATIONAL OCEAN SERVICE

The technical and scientific advice provided by NMFS habitat personnel are supported, not only by the work of NMFS researchers, but, oftentimes by other NOAA scientists as well. Scientists from NMFS and NOAA's National Ocean Service (NOS) are collaborating on the first comprehensive and consistently derived data base of the areal extent and distribution of coastal wetlands in the coterminous United States (excluding the Great Lakes). This data base uses a dot-grid matrix approach to sample Fish and Wildlife Service National Wetland Inventory maps. A series of atlases and reports have been produced including summaries of wetland acreage by estuary, and by coastal county, for the Gulf Coast. These coastal wetlands inventories will be incorporated into NOAA's National Estuarine Inventory, along with physical, hydrologic, biological, and economic information, to provide a more comprehensive illustration of the Nation's estuarine environments.

The NMFS and NOS have begun to compile data on the life history, distribution, and abundance of 35 fish and invertebrate species in 13 estuaries in the Gulf of Mexico. The completed data base will be part of a National Inventory, which will enable comparisons among species or species groups, specific life stages, estuaries, and geographic areas. Additionally, NOS is establishing an accurate baseline and points of reference for wetlands management planning. One effort involves the accurate monitoring of vertical shoreline movement, coastal erosion, subsidence-accretion, and uplift. The data base will help planners to assess and accurately define the impact of severe storms, other natural processes, and human activity on shoreline erosion and to assess resulting physical alteration of wetlands and economic impact.

In 1987, NOS and the Department of Energy initiated a joint pilot program, the global absolute sea level network, to accurately predict the amount of coastal lands, particularly wetlands, that may be lost due to global warming. The accumulated time-series of absolute sea level data being initiated by NOAA will provide a unique set of data for verifying and calibrating coupled oceanic-atmospheric models required to study the dynamics of the global climate system. The data set provides scientists with the information to distinguish the components of relative sea level variations due to vertical land movement and global sea level rise for the coastal ocean.

THE OFFICE OF OCEANIC AND ATMOSPHERIC RESEARCH

NOAA's Office of Oceanic and Atmospheric Research (OAR) supports research programs to provide the scientific and technological basis for improving NOAA's services and products. NOAA's research is designed to improve scientific understanding of physical processes, ecosystem dynamics, and living marine resources. OAR-sponsored research is carried out by its Environmental Research Laboratories and National Sea Grant College universities. In FY 1988, Sea Grant's environmental program included $2.3 million worth of wetland-related research, consisting of 42 projects conducted by 17 Sea Grant programs. The Louisiana Sea Grant College Program is currently conducting research on primary productivity, trophic dynamics, wetland dynamics, habitat utilization, and marsh management and habitat restoration techniques. Federal funding for these projects totaled $325,280 in FY 1988, and State matching provided an additional $238,559.

In response to growing concern by Federal, State, and local agencies for proper management of the Atchafalaya basin, the Louisiana Sea Grant Program initiated an Atchafalaya subprogram in 1978. Over the years numerous research projects examining nutrient dynamics, organic matter production, trophic dynamics, and the processes controlling coastal marsh formation and deterioration have been supported. One of the goals of this subprogram is to provide quantitative information necessary to project changes in Louisiana coastal environments. Current efforts include the synthesis of scientific information on the Atchafalaya ecosystem and transfer of this information to local and State coastal managers.

THE OFFICE OF OCEAN AND COASTAL RESOURCE MANAGEMENT (OCRM)

NOAA's Coastal Zone Management Program provides grants and technical assistance to States and territories to manage their respective coastal areas under the auspices of approved State Coastal Zone Management Plans. These plans are designed to implement programs which balance the use and conservation of coastal and ocean resources. The Coastal Zone Management Act declares that "it is a national policy to preserve, protect, develop, and where possible, to restore or enhance, the resources of the Nation's coastal zone...". The protection of wetlands has been a major element of all Federally-approved plans. Among Gulf States, Louisiana, Florida, Alabama, and Mississippi have approved Coastal Management Plans. Grants are available to these

States to preserve areas that contain significant coastal resources, redevelop deteriorating urban waterfronts, provide access to public beaches or estuarine areas, and to streamline permitting procedures required by the various agencies with jurisdiction over development activities in the coastal area.

In Fiscal Year 1988, OCRM awarded nearly $2 million in Coastal Zone Management grant money, which was matched with $1 million from the State to administer the Louisiana Coastal Resource Management Program. Under this Program, the Coastal Management Division of the Louisiana Department of Natural Resources administers the State's Coastal Use permit and Federal Consistency programs, monitors and enforces activities in the coastal zone, and helps to develop special area management plans and local coastal programs.

As part of the Fiscal Year 1988 award, OCRM funded $175,000 in studies relating to the effects of marsh management practices on vegetation, land loss, hydrology, and marine organisms. These studies are intended to provide needed information to State Resource managers to aid in making future management decisions regarding marsh management.

NOAA's National Estuarine Reserve Research System, authorized by the Coastal Zone Management Act, has played a direct role in protecting and improving the estuarine environment. With the

States' cooperation, we have established a system of seventeen reserves in fifteen States. These research reserves include over 300,000 acres of estuarine land and water. Management consists of environmental education activities, research focussing on estuarine issues, and facilitating coordination among Federal and state regulatory agencies. Management also strives to enhance protection of estuarine living resources and habitats through appropriate monitoring, and contingency planning. Applied research supported by the reserve program addresses important coastal management issues, including the decline of seagrass, methods for restoration of habitats, and the effects of road construction and increased urbanization on estuarine ecosystems. There are currently three estuarine research reserves in the Gulf of Mexico: Rookery Bay and Apalachicola Bay, Florida, and Weeks Bay, Alabama.

Understanding the effects of losing or modifying marine habitats as a result of human activities is one of six goals established for Federal programs in the *National Marine Pollution Program - Federal Plan for Ocean Pollution Research, Development and Monitoring (FY 1988-1992)*. This plan was prepared by NOAA in cooperation with the interagency National Ocean Pollution Policy Board as required under the National Ocean Pollution Planning Act (P.L. 95-273, as amended) and was delivered to Congress earlier this year. The Plan recommends the formation of an interagency working group to promote coordination of studies on habitat loss and modification. At the May meeting, discussions will be initiated on improving wetlands mapping, documenting habitat loss rates and patterns, research on habitat functions, and effectiveness of habitat restoration and mitigation practices.

As indicated by my testimony, much of NOAA's work involves wetland resources. Virtually all NOAA line offices contribute to efforts to conserve, manage, restore, and enhance wetlands.

President Bush has established "no net loss" of wetlands as a national goal. Through the Domestic Policy Council, the Administration is establishing a Wetlands Task Force to work towards this goal. NOAA and the Environmental Protection Agency both have testified that the Federal resource and regulatory agencies must work together to address the complex issues inherent in implementing this goal. NOAA looks forward to participating in the inter-agency task force on wetlands, revising the Executive Order on Wetlands, establishing "no net loss" as a national goal, and coordinating and assessing implementation of the "no net loss" goal.

Mr. Chairman, that concludes my statement. I will be happy to answer any questions you or Members of the Subcommittee may have.

Mr. NOVAK. We will now hear the testimony of several Louisiana State officials.

TESTIMONY OF CHIP GROAT, STATE DIRECTOR, LOUISIANA GEOLOGICAL SURVEY; VIRGINIA VAN SICKLE, SECRETARY, DEPARTMENT OF WILDLIFE AND FISHERIES, STATE OF LOUISIANA; DAVID M. SOILEAU, TECHNICAL COORDINATOR FOR COASTAL ACTIVITIES, OFFICE OF THE GOVERNOR, BATON ROUGE, LA; DAVID CHAMBERS, DIRECTOR, COASTAL RESTORATION DIVISION, LOUISIANA DEPARTMENT OF NATURAL RESOURCES

Mr. NOWAK. We will first start with Mr. Groat.

Mr. GROAT. Thank you, Mr. Chairman. We will first start with the processes that are causing a demise and illustrate some of the effects that man has had on the system and then make some suggestions based on what you have learned about this as it relates to the solution to the problem.

The theory behind looking at the processes is that it is difficult to fix something properly if you do not understand how it looks. And South Louisiana, in fact the whole part of the State indicated in green here is a very young and very dynamic part of the United States. All of the area in green have been formed in very recent times, they are still forming. So it is not surprising from a geological prospective that we see things happening very fast both constructively and destructively.

As mentioned earlier that the past 7,000 years the southern part of the State has been built by a series of delta lobes. And that is good testimony as to just how young this terrain is. This graphically shows you those lobes that have been built. The key used is a series of constructional lobes, each lobe is built by the Mississippi carrying water and sediment out into the Gulf. And as those lobes are built we create a series of wetlands that you flew over today. So this flat expanse of vegetated wetlands is part of the delta construction process and to the degree that the construction process operates, we have extensive wetlands.

These wetlands are of different types, different varieties based on the position on the delta complex, based on the salinity of the waters, how close they are to the Gulf, based on the processes that operate in it. So it is not one homogeneous uniform set of wetlands and an understanding of what it is we have to do to maintain them, we have to understand the differences, we have to understand the processes that are important. So it is not just a simple matter of wetland preservation as a single subject, it is a matter of appropriate things in appropriate places. The constructional part of the process build the land but there is a converse to this and it is not recognized perhaps as widely as it should be, is that the destructional process is as much a part of the South Louisiana landscape as is the construction process. And it is just as natural, just as much part of the system as is building deltas.

Here we can see some of the processes that operate once a delta lobe is built to destroy it. First off the river flips around. It builds one lobe and then it changes course upstream and builds another one. Well, that lobe that is now been abandoned, that one of the seven, starts to undergo destruction. There is very little there to continue to build it up. The sediment is now going somewhere else. So we see flat wet terrain starting to sink beneath the Gulf because the sediments are heavy, they are full of water and as they compact the water is squeezed out and the land sinks beneath the Gulf. And so this subsidence process naturally destroys wetlands. It also allows, since there is no sediment building out, waves to work on these wetlands and they are not very strong and very protected. And so the shore begins to erode and the wetlands are destroyed from above by subsidence and from below by subsidence and from the Gulf by wave attack and by storm and we start to see a net loss as part of the natural process of delta lobe abandon.

This slide shows you the sequence that we go through. Which does not seem to focus, but I think you can make it out. Upper left, active delta. To the right we see that the delta lobe has now been abandoned and the waves have started to work on it. And it starts to sink as well. So we see the now formed delta lobe being eroded into a series of fringing barrier islands and we see the land behind the delta sinking until we reach the lower right hand corner. We reach a stage where much of the wetland area is gone and all that is left is a detached set of barrier islands out in front. And the shore line of the wetlands is eroding, the barrier islands themselves are eroding and the very function that they play in protecting the coast is being diminished. And finally carried to its ultimate, if the delta does not, a delta lobe does not return to the former area it was in we see almost a total loss of the most productive part of the system, the flat vegetated wetlands. So it is conceivable at any one lobe area that we could lose most of what was produced if more sediment is not introduced into the system. So we do have a natural process that builds South Louisiana, but we have a natural process that destroys it. And if man had never moved in, if man was to just walk off and leave it as was raised in Mr. Tauzin's question before, it would all go to the point where we would have very little wetlands left. It would take a long time but nature would remove the vegetated wetlands but presumably nature would let the river move around like it did before and we would build new ones in other parts.

So now we come to the second chapter of this process and we look at the patterns of loss and we see subsidence, we see coastal erosion, in some cases very severe, and not surprisingly, most of the severe loss areas are in the vegetated wetlands that are both sinking and being affected by man's activities. We can go to the air, as you did this morning, and look at the coast line and see the coast line being peeled back into the wetlands. We can measure this and it is, we can measure the rates of wetland loss and of coastal erosion through—there we go, that was easy, usually it is a bulb that burns out and then there is a mad panic. So over the past several years, because of the interesting coastal landmarks, there have been a number of studies to document both the rates of erosion as are shown in this slide, and the causes of erosion that we have to deal with. And we can do it by going to the coast and looking at things. We can do it by looking at historic maps and photos, and we can document where these things are taking place and convince ourselves that it is very real.

Now, I am just going to run through very quickly man's impact statement described before. Man did not cause coastal land loss in Louisiana. But man has basically shut off the constructional process, by leveeing the river, by not allowing it to move from its present course into the Atchafalaya Basin. We have stopped it from building additional lobes. And by leveeing it in its present course, we have shut off sediment and water that would continue to nourish that part of the lobe that is still out there and that is still active.

In addition to that, we have created a series of canals in the wetlands for both access to both oil and gas, and for access of shipping. We have had two navigation canals, the Homal Canal, the MRGO, which have allowed shipping into the southern part of the State; they have also allowed saltwater. So we have severe saltwater intrusion problems related not only to the subsidence, but also related to the canals that we have dredged. And this alters some of those forms of wetlands I showed you in the slide before, from their natural types to either destroy them or change their character so that they are less productive.

It was also the highest priority of South Louisiana years ago to get non-renewable resources out. And this was pointed out to serve the nation with its energy needs. We did a lot of things to the wetlands that we are not doing anymore today, but we do have a heritage of canals. We have a heritage of oil and gas fields that are now reaching maturity. Some have reached maturity some time ago. And we have waste products. We discharge tremendous amounts of produced waters into the wetland areas. And there is evidence that they contribute to the chronic loss of wetlands that we are dealing with.

And finally, the worst case scenario is the combination not only of what man has done to halt construction, what man has done to heighten destruction, but what indirectly we may be doing through the concern about sea level change. Sea level is changed naturally throughout history. We have seen different episodes of delta building on the coast in response to it. But now, there is growing evidence of sea levels rise is accelerating through the Greenhouse effect. It can scare people to death if you take the worst case scenarios of sea level rise and apply them to the Coastal Lowland in Louisiana, that is already sinking. Already compacting. Already suffers saltwater intrusion. Already has canal systems, and move sea level up to the dramatic portions that are projected. And the idea of the shoreline at Baton Rouge, and Lake Charles, in middle of the next century or the latter part of the next century, is not particularly difficult to conceive of under the worst case scenario.

So, nature has created its structured situation for us. We have hindered it. Or we have helped it, I should say, the destructive part. And then we may be aggravating it through the Greenhouse Effect.

The question then is, how do we fix it? What do we do about it? We really only have two things to work with. The water and the sediment that built the system in the first place. And we heard several references in the earlier testimony about using dredged soil, as other dredge material, as a means building wetlands. Of sediment diversions, to get the sediment into the wetlands again. Of getting fresh water into the wetlands, which is already being done. And these are all a part of restoring the natural system that we have altered to make South Louisiana livable.

The question is, how do you do it? We have some things working against us in that regard, too. The fact that the middle part of the country and the upper part of the country has done a good job of retarding soil erosion, has built a series of dams on the Missouri and Mississippi River, means that not as much sediment is in the system as used to be. So, we do not have as much natural sediment to work with as we might have a few hundred years ago, or even a few decades ago for that matter.

So, it is going to be a difficult job, but nature built the delta. It built it with very simple materials, and it is our challenge, not only through management activities to minimize the effects that we have on it, which is an important emphasis. But, for those of us concerned about how we rebuild it, we have to find clever ways, useful ways, practical ways, ways that we can afford to reconstruct parts of the delta system and the delta plain, to enhance the productivity of the marshes.

And we are also going to have to admit in the process that there is a net word in our business too, and that is that we cannot save it all. That there are certain parts that have gone so far that nothing man can do with any reasonable cost or any reasonable expectations, can save it. And we have to go through those difficult zoning processes to arrive at where we spend our money.

And the State is coming to grips with that and the last two speakers today, I am sure, are going to talk about that. That is their end of the business. But as a geologist, we just point out that these processes have to be understood. Have to be dealt with in a proper way and in a positive way to make restoration process work.

And I might just close with a comment that has been made several times in the past about marsh management. That is another technique for dealing with the water and sediment in the Wetland areas. And it has been proven effective in many areas. The reason, one of the main reasons that it has gone slower in recent times, is the concern that has been raised about the effectiveness of marsh management in doing exactly what it is trying to do. Not that the record is bad, the record is excellent in some places. But there are some areas where people have pointed to and said well it really did not work here therefore we should not do it. So the result of different commenting agencies, is for different commenting agencies to say slow down. In fact it has reached the point where the Corps is going to prepare a comprehensive environmental impact statement on the whole issue. And the kinds of monitoring and the kinds of studies that are necessary to provide the data that Mr. Fruge had mentioned to decide where it works and where it does not are in effect right now. Hopefully, that reason for not proceeding with effective wetland management techniques will no longer be with us in a year or so and we can proceed where it works well to use that as well as water and sediment diversions. That concludes my remarks.

Mr. **Nowak**. Thank you very much. We will now, as we did with the other panel, go to the witnesses before we have the opportunity to generally ask questions, and turn now to the Secretary of the Department of Wildlife and Fisheries, Virginia Van Sickle.

Ms. Van Sickle. Thank you. I would just like to go right into a quick series of slides. There are bunches of them but they are going to be quick.

Coastal Louisiana is indeed a sportsman's paradise and as Congressman Hayes said, has said so on our license plates for many years and we are quite proud of that. We have 1.1 million fishermen, half a million duck hunters, and actually more than one out of three of our residents or 37 percent of our residents in Louisiana either hunt or fish. Louisiana's four million acres of marsh and swamp comprise 40 percent of the nation's coastal wetlands. It also comprises 85 percent of the documented coastal wetland lost in the United States. This slide shows the loss of our wetlands both interior and coastal, and as you can see, this is developed by the U.S. Fish and Wildlife Service, back in the year zero through 1989 there was a buildup of wetlands. And this corresponds to the geologic framework 7,000 years ago as things started to build through deltaic process. The dramatic demise of our coastal ecosystem has serious implications for fish and wildlife in much of the United States, not just Louisiana. Let me show you why. The large scale losses of marsh habitat in Louisiana coastal zone are occurring concurrently with declining numbers of fish and wildlife. Specifically, much of the decrease in water fowl production in the United States is attributed to the loss of wetlands not just in the prairie pothole region, but in the wintering habitats as well. And water fowl experts believe now that habitat changes along the Mississippi Delta Plain will effect the number of water fowl surviving through the winter and their subsequent reproductive success. There is good reason for concern. The number of mallards, pintails, teal, and other water fowl wintering in coastal Louisiana has declined dramatically since 1969.

Population levels in the late 1960's and the early 1970's, averaged 4.6 million birds. In the past five years, however, the average count has declined to less than 2.8 million ducks and this is roughly half of what it had been before the marsh loss began to accelerate.

Our marshes still do support more water fowl than that of any other State. One quarter of North America's water fowl, actually winter in Louisiana, including the productive Mississippi Flyway, or two-thirds of the birds actually winter in our coastal zone. And the area which I flew over this morning was the hot spot of it all. The largest concentration of water fowl in the United States, here every winter.

Our coastal marshes are also the home for over half a million geese every winter, and 1.5 million coots, and hundreds of thousands of migratory non-game shore birds, that are also important to water fowler and the nature lovers of the country.

Louisiana ranks second only to Minnesota in the number of hunters that we have, but water fowl hunters of the entire Mississippi Flyway, including up into Canada, benefit from a dependable Louisiana's Coastal Wetlands, where the water fowl converge each winter. This is just a rough shot we took out of the Duck's Unlimited Magazine, that shows the migratory pathways of the North

American water fowl, and you can see how they all converge on the Texas and Louisiana Gulf Coast region.

North American Water Fowl Plan has targeted much of Coastal Louisiana as a high priority for acquisition and restoration. Southwest Louisiana is the most important water fowl region in the Gulf Coast. Rockefeller Refuge, which you visited today, and a couple of the Federal refuges, Subine and Lacosine, use intensively and successfully proven techniques for water fowl and for their management.

Through the use of water control structure, such as this passive foyer, and this larger more sophisticated stop log structure or Rockefeller, State refuge managers, Federal refuge managers, and landowners, manipulate water insalubrious levels, to where they are conducive to the maintenance to the healthy of a health ecosystem.

We also use control burns as another management tool to increase the productivity, and to provide more desirable food for birds and mammals. Mammals including deer, muskrat, mink, nutria, and many more. Nutria shown here.

Louisiana Wetlands support this country's largest population of furbearing mammals. We rank first in the production of fur in North America. Actually, on the entire continent. And produce one-third of the otters and this sort of thing. And our multi-million dollar fur industry is important to our economy and to our culture. The furbearer harvest also provides the landowner with that incentive that Mr. Tauzin was talking about for managing and protecting your wetlands, and benefiting fish and wildlife resources of the State at the same time, because if you have a good habitat for your furbearers, you are going to have a good habitat for your water fowl and for other migratory species.

There is another interesting aspect of our fur harvest that you might find somewhat negative. I find it troublesome and our staff does too, and it is driven by outsized forces, and that is the market for furbearers. Our fur interest from our trappers is driven largely by price and you can see the price of nutria here has gone from $8 to $3, since 1966, 76, 77. The same thing happened on nutria, and overall our fur value has dropped from $18.2 million to $3.8 million.

The animals are still there, though, and we are having tremendous problems with overpopulation of these sorts of mammals, and actual eat-outs, of the Wetland vegetation. This is a well managed marsh. We have a young trapper here that is running his traps and you can see the marshes have good integrity. You can see some of the muskrat homes and this sort of thing. However, in a marsh that is not managed and where we do not have trapping, we have what we call, eat-outs. And this is a muskrat eat-out here.

On a close look, you can see the impacts of the overpopulation of the furbearers. This is muskrat damage here and this is nutria damage. The muskrat damage is predominantly in the brackish marshes and the nutria damage can be up in your fresh intermediate marshes. Overpopulation can result in permanent loss of vegetation, particularly in the brackish marsh zone.

If alligator prices were not $50 a foot, this species too, could overpopulate easily in South Louisiana. Louisiana is now the largest producer of alligators in the continent. Last year we harvested roughly 25,000 gators, and exported them for fine leather products at a value directly to our local economy of $10 million.

Highly controlled seasons and quotas have been responsible for the propagation and in the increase of alligator farming amongst our residences. Alligator farms are cropping up everywhere and they are highly regulated and we are still dealing with the endangered species activist sort of thing. But it is off the grant. It is a big, booming business in South Louisiana. Again though, dependent upon our Wetlands.

The final subject I would like to touch upon, is the relationship of U.S. fisheries production to Louisiana's Wetlands. Our coastal ecosystem is made up of marsh, shown in green, barrier islands shown in yellow, or coastal barriers, sometimes they are not islands, it is just a sandy shoreline. And the marsh or estuary rather, in between, such as Timbalier Bay, Barataria Bay, Caminada Bay.

The productivity of our estuaries is largely due to the primary productivity of our marshes. Between the marshes and the barrier islands lies the richest coastal estuary in the United States. The Berry Terry Bay Coastal Estuary, extending up northward is the most productive including comparison to Chesapeake.

As a result of this productivity, Louisiana leads the United States of the overall production of seafood. We are the top U.S. producer of crawfish shrimp and many fin fish, and we do, as several of these figures have said, produce 30 percent of the nation's fishery harvest. Louisiana, alternately in different years, shares the State, top State production with Maryland for the production of oysters. Twelve million pounds in 1987. Us and Maryland together, produce half of the U.S. oysters that our consumers enjoy. We produce roughly 100 million pounds of shrimp each year. Our shrimp fishery is our most valuable. Rate that roughly $200 million per year.

We also produce one-quarter of the nation's crabs. We were first in the nation in crab production last year, with production totally 53.6 million pounds of crabs.

The dockside value of Louisiana seafood at the first point of sale, is $350 million a year. You can multiply that according to which economists you listen to by three to five times to get the overall impact on Louisiana economy.

Curiously, the production of menhaden and shrimp has been increasing inversely as the marsh has been decreasing, or rapidly deteriorating. And a lot of fishery scientists have been looking at that in recent years as the information has become available, and have actually found an increase in recruitment in the species shown here, menhaden, brown shrimp, and white shrimp, between 1960 and 1985. It is very curious. You would expect that you would have a decrease in production.

But at this point we do have 3.5 to 4 million acres of Wetland in existence. We also have 3.2 million acres of estuary, so you roughly have half estuary, and half marsh situation. This means that you are maximizing the marsh water interface and the actual access of your organisms that come into the estuaries to mature.

Fishery scientists believe that as the marsh breaks up and you get towards where you are more towards open water, that you are going experience a decrease in your fishery production. And this slide is not something that we developed. This came from a national fishery service, and they have come up with a somewhat alarming theory that once the marsh fraction of our coastal ecosystems begins to be outweighed by open water, the productivity of our fisheries will decline with the reduction of that marsh water interface. They basically assert that the conversion of marsh to open water will have a peak or optimum effect on fisheries to a point and then begin to decline dramatically.

Fisheries experts are indeed predicting at this point, I hate to use an alarming term, but I heard it at my last NULF council meeting, a collapse of our fisheries within 30 years if wetland loss and deterioration of the estuary continues at the present rate. This is the two-fold hypothesis that Fort Bipolene Fisheries, group out of St. Petersburg, and our fisheries people have a similar opinion. We do not have any proof that it is going to happen, but it is a logical hypothesis. And with that, I will conclude my remarks and answer questions if you have any later.

Mr. NOWAK. Thank you very much, Virginia. We will now turn to David Soileau, for the Technical Coordinated Coastal Activities Office of the Governor.

Mr. SOILEAU. Thank you, Mr. Chairman. My name if Dave Soileau. I serve as Governor Buddy Roemer's Technical Coordinator for Coastal Activities. I appreciate the opportunity to appear before you today. My comments will focus on initiatives taken by Governor Roemer to ensure that the various departments of State government speak with one voice relative to issues that affect the wetlands of coastal Louisiana. I will also identify some State and Federal initiatives involving policy, legislative, and structural actions that, if advanced expeditiously, would have a significant impact one, on reducing the rate of loss of vegetated wetlands in coastal Louisiana and two, planning for and implementing significant restorations measures to reestablish vegetated wetlands in the areas that have been converted to open water already.

About a year ago, shortly after taking office, Governor Roemer established a Coastal Restoration Policy Committee composed of various cabinet-level individuals from a number of departments of State government that had interests or responsibilities in the areas of natural resources and coastal wetlands. He charged that group with developing a plan to identify measures to preserve, enhance, create, and restore vegetated wetlands in coastal Louisiana. A report addressing policy, legislative, and structural measures that could be taken to accomplish these goals was unanimously adopted by the Policy Committee in August of last year. Subsequently, Governor Roemer appointed a Technical Coordinator to oversee the implementation of report recommendations and to function essentially as a clearinghouse for the activities of other State agencies and departments that could impact coastal wetlands.

The report prepared by the Policy Committee identifies a number of recommendations which, if funds and authorities allow, could be implemented immediately or in the short term to reduce the rate of wetland loss in coastal Louisiana. The report also provides a number of long-term recommendations dealing with measures to restore or create vegetated wetlands in areas where they have been lost. The latter group of recommendations, for example major diversions of water and sediment from the Atchafalaya and Mississippi Rivers that Chip mentioned earlier, are likely to have far-reaching impacts certainly socially, economically, and politically. Nevertheless, they must be addressed. Any real success in conserving and reclaiming even a small portion of Louisiana's vegetated wetlands can only be accomplished through the implementation of such measures.

We anticipate that many of the smaller scale, short-term structural recommendations, including marsh management, would more appropriately be implemented by State and local governments and private entities, leaving the larger scale structures to be further evaluated and implemented with significant Federal funding. With that in mind, Governor Roemer included a provision in the constitutional amendment brought before Louisiana voters on April the 29th, calling for establishment of a Wetlands Preservation Fund. That amendment would have provided for the first time in Louisiana, annually recurring revenues dedicated to coastal restoration. Although the fiscal reform constitutional amendment failed, our hope of providing for such a dedicated fund has not diminished. There are in fact a number of bills currently being considered by the Louisiana Legislature that would establish such a trust fund. We are optimistic that this issue will receive favorable consideration.

We applaud President Bush's new national goal of "no net loss of wetlands." And almost every speaker before me has mentioned that. We disagree, however, with Assistant Secretary of the Army Robert Page's observation that he proposed in testimony to the House Appropriations Subcommittee on January of this year, that "no net loss is by nation, not by specific projects." To believe that is tantamount to acknowledging that wetland losses from individual, Federally sponsored or permitted projects have never been nor can they ever be mitigated. The record, in Louisiana, clearly shows that when a genuine effort was made by the Corps to mitigate adverse wetland impacts from water resource development projects or to require appropriate mitigation from the recipient of a Federal permit mitigation generally proved to be effective and successful. There is no reason to assume that this could not continue to be the rule rather than the exception. In Louisiana there is ample opportunity within our vast reaches of deteriorating wetlands to provide adequate area to mitigate future water development projects and permits. We believe that a no net loss of wetlands goal from development by way of mitigation is attainable.

There are, in fact, current proposals in the State Legislature that would move Louisiana into the forefront nationally with respect to achieving no net loss of wetlands from future development activities permitted in our coastal wetlands. In short, legislation currently being considered would provide for a prohibition against non water dependent developments in coastal wetlands and for mitigation of those water dependent activities that we do decide to permit. We would encourage similar national legislation. To truly achieve the intended goal of no net loss of wetlands, however, would require, in addition to mitigating ongoing projects, significant levels of Federal funding to construct massive projects intent on restoring the thousands of acres of coastal Louisiana wetlands that have been lost as a result, primarily, of Federally sponsored and permitted activities over the past 50 years.

Make no mistake, Louisiana intends to do its share. But it is important for you, as National leaders, to understand that we did not get into this predicament alone. Dredging and leveeing of rivers in upper parts of the Mississippi River Valley, to provide for navigation and flood control, forced increased runoff into Louisiana. This, of course, required the construction of levees and floodways in this State to alleviate flooding caused by the increased runoff. The long term impact of such activities was to cut off sediment rich waters from our coastal marshes, leading to their accelerated deterioration and, in the absence of significant intervention, eventually to their total demise.

To combat such long term impacts, we need nothing short of the kind of program and funding that would be provided via the legislation currently being sponsored by Senators Breaux, Johnston, Mitchell and others, namely Senate Bill 630, that which Senator Breaux spoke of earlier. If enacted, as the Senator pointed out, that bill would provide from $140 to $150 million a year to be used to conserve, protect, restore coastal wetlands in the State of Louisiana. Passage of this bill would be an important step forward in helping to attain the goal of no net loss of wetlands as it relates to loss trends that have been set into motion by nearly a half century of Federally sponsored navigation and flood control projects in Louisiana.

Also from a Federal perspective, I refer you to a couple of other rather obvious opportunities to address coastal restoration by way of ongoing programs within the U.S. Department of Agriculture. Currently, the Watershed Protection and Flood Prevention Act, which we normally refer to as, Public Law 83-566, authorizes the Secretary of Agriculture to cooperate with states, local agencies, and landowners in planning and implementing improvements for soil conservation. That law provides both for technical and financial assistance. In fact, Horace Austin mentioned earlier the technical part of that law. Where it is being applied, planning and cost-sharing assistance to landowners is provided to any number and variety of structural improvements for soil conservation, to abate the soil erosion. It appears that projects designed and implemented to protect coastal wetlands from erosion would fit well within the authority and framework of this program, but it is my understanding, that, at present, it is the policy of the Soil Conservation Service that this Public Law 566 and the funds that go with it, be used to cost-share with landowners on only upland soil conservation projects, not on coastal soil conservation projects, except on a technical basis, technical assistance basis. With that in mind, we would request that this Committee do whatever it can to bring about a positive change in this policy relative to Louisiana coastal wetlands.

A second program, also within the Department of Agriculture, administered this time by the ASCS, currently provides cost-sharing for landowners to install erosion control measures in areas being used to commercially produce certain agricultural crops such as grains, vegetables, livestock, and other agricultural commodities. Our coastal marsh areas do not apparently qualify for participation in this program because owners of coastal wetlands are not considered "commercial agricultural producers". Hereto, we would request and recommend that this Committee appeal to the Secretary of Agriculture to expand the scope and definition of "agricultural producers" for purpose of extending eligibility within this program to landowners and operators who manage coastal wetlands for the production of furbearers, alligators, and the like.

I have included as an attachment to my current testimony, an April 4, of this year, statement provided by Governor Roemer to the House and Senate Committees on Appropriations, Subcommittees on Energy and Water Development. That statement specifically identified a number of recommendations for appropriations to address immediate coastal restoration needs in Louisiana. We would encourage you to endorse these recommendations in your meetings with your Congressional colleagues.

In summary, I would like to reiterate some of the observations of the other folks on this panel and the panel before us, that the loss of vegetated wetlands in Louisiana has reached catastrophic levels. It is a problem that Louisiana is taking very seriously and plans to address both legislatively and financially to the maximum extent possible. We believe, however, that the fish and wildlife resources and their economic values of are National in scope. Louisianan marshes serve as the principal nursery for the fishery resources of the entire Gulf of Mexico. They likewise provide necessary winter habitat for 70 percent of the waterfowl of the Mississippi Flyway. We also believe that a large percentage of the ongoing wetland loss trend in the Louisiana coastal area has been brought about by a half century of Federal planning and construction of single-purpose flood control and navigation projects. And all of these considerations together, we hope, will lead you, as they have us, to conclude that large-scale Federal intervention is not only warranted but should be mandated.

We believe that a major step forward in the process of elevating this issue to a National level has been taken here today by Congressman Hayes in inviting this group to Louisiana, and we thank you, sir. Mr. Chairman, we are very grateful for the opportunity to present testimony to your Committee.

And as a last statement, I would like to say that I think Louisiana is especially fortunate, to have an entire Congressional Delegation that is sensitive and responsive to the needs to secure critical Federal policy changes, legislation, and dollars to battle coastal wetland deterioration in this State. We trust that all of you will work harmoniously toward those goals.

I thank you.

Mr. NOWAK. Thank you very much, David. And we turn now to David Chambers, who is Staff Assistant in the State Department of Natural Resources.

Mr. CHAMBERS. Thank you, Mr. Chairman. Members of the Subcommittee, my name is David Chambers. I serve as the Director of the Coastal Restoration Division, in the Louisiana Department of Natural Resources. My comments will focus on the State's existing and planned coastal restoration projects and on ways in which the Federal Government can assist the State in reducing vegetated wetlands losses.

The State's program to restore and maintain vegetated coastal wetlands centers around large-scale introduction of sediment and fresh water into our coastal basins. Gentlemen, the presence of the Mississippi River within Louisiana's boundaries provides us with what I think is the nation's best opportunity to create, restore, enhance or maintain coastal wetlands on a grand scale. In no other State can large amounts of coastal wetlands be created or saved simply by harnessing the energy of the Mississippi River, to deliver water and sediments to the marsh.

This is not to say that introduction of large amounts of water and sediment can be accomplished without significant problems or substantial cost. Structures to introduce water safely from the river into adjacent coastal wetland basins will be expensive and their operation will generate controversy, particularly among oyster fishermen, or others who may anticipate adverse impacts from the introduction of fresh water and sediment. However, it is vitally important to realize that short term impacts on the fisheries, will be offset by the long-term maintenance of the marshes and by increased long term benefits to the fishing industry as a whole, if fresh water and sediment diversions are implemented. The enormous cost to society of taking no action and of losing our wetlands must also be recognized. With the demise of the marsh, we will lose our fisheries, wildlife, and the numerous other associated economic, recreational, and aesthetic benefits.

At the present time, the first Federal/State diversion structure, located at the Caernarvon site in Plaquemines Parish, Louisiana, is under construction. Continued State and Federal funding is needed for completing construction of this project and for future operation, maintenance, and monitoring costs. Two similar projects are planned for construction at the Davis Pond and Bonnet Carre fresh water diversion sites in St. Charles Parish. Federal funds and administration approval to initiate their construction will also be needed.

It is important to remember, though, that these three relatively small diversion projects are primarily designed for the purpose of salinity control and not for creating new marsh. Much larger structures will be required to create new vegetated wetlands. Such structures should be capable of diverting the large volumes of sediment needed to create significant areas of new wetlands and to help restore degraded on a coastal/basin scale. The State plan calls for several large structures to be evaluated. If constructed, such structures could be operated on a rotating basis to maximize sediment delivery and minimize impacts to basins in which they are located. These large sediment diversions will be expensive and will require Federal funds for their construction.

The State has several joint planning efforts underway with the Corps of Engineers to develop plans for marsh creation and restoration projects. Among these is the Louisiana Comprehensive Coastal Wetlands Study, discussed earlier by General Sands. This study will require administration approval before the cost-shared phase can proceed. Congressional inquiries may be needed to hasten the approval process once the Office of the Chief Engineer has received the reconnaissance report and the letter of intent from the State to cost-share in the planning study.

The Coastal Restoration Division has built or is planning a number of wetland restoration and preservation projects across South Louisiana. As an example, offshore segmented breakwaters will be used to provide shore protection for the Cameron Parish headland along Highway 82 between Constance Beach and Holly Beach. Experimental breakwater installations placed in this area several years ago have survived hurricane impacts and have protected the highway and the vast expanse of wetlands landward of the test segments. Wetland management and vegetation planting projects have also been implemented in coastal parishes and more are planned for the upcoming year.

The Coastal Restoration Division is evaluating plans for a variety of wetland preservation projects, likely to be cost-shared with coastal parishes. We are also preparing to construct a rock protection structure along the Gulf Intracoastal Waterway near Blind Lake in Cameron Parish. The structure is need to prevent boat wake erosion into the Cameron-Creole Watershed project, thus preserving the water level drawdown capability for the entire area that we visited today. Other wetland areas along the Federally maintained Gulf Intracoastal Waterway, have been damaged or may soon be damaged by bank erosion. We recommend that Section 9506 of the Water Resources Development Act, of 1986, entitled, Inland Waterways Trust Fund, be amended with language requiring the Corps of Engineers to use a portion of the monies contained in the fund, to prevent erosion of the Gulf Intracoastal Waterway banks into adjacent Louisiana wetlands, and to install controllable fresh water diversions in areas where natural waterways were severed by the channel construction. A plan to implement this work should be developed in consultation with the State.

On behalf of the Department of Natural Resources, I wish to express our sincere appreciation for the efforts of this Subcommittee to help address our coastal wetland loss problems, and for the opportunity to present this information to you today. Thank you.

Mr. **Nowak**. Thank you very much, and let me first start out with the question of the Federal 404 permit. I guess that could have a substantial impact as you go through some of the State initiatives that the governor would like to get into. I understand there was a sort of a setback with the tax initiative in the last month or so, but I am sure there will be other opportunities and in fact, no matter what we do on a Federal level, as Governor Roemer knows, we tend to look at cost-sharing as a viable way to now produce water projects of any magnitude in size. Whether it is a Water Resource Development Act or through the Bureau of Reclamation or through any other initiative, such as Coastal Zone Management, which we hope to get into.

But those "matching dollars" to some degree will be required and hopefully they will include some in-kind servicing that could also serve as a match as we go forward in this whole area. But when we listen to some of the people this morning, out in the field if you will, talk about the problem of doing something positive with the 404 permit program, in areas that actually would have benefited. The total environment including bringing back some of the wetland area that they were involved in with the permit application. I wonder if you had any comment on the process and if you felt the Federal process could be speeded up or streamlined or make it work better with the State initiative?

Mr. Soileau. Absolutely. I think the biggest problem that we see surfacing in relation to marsh management projects and the permitting today are frankly, between the Federal agencies or at least a couple of them, whose views on the need for ingress and egress and whose diversion views on whether or not marsh management is good or not so good, are for the most part totally different from the bulk of the State agencies in a review or regulatory authority.

So there is no doubt in my mind that by turning the entire regulatory process over to the State of Louisiana, that we will have not only facilitated the process, but certainly expedited the issuance of more marsh management permits in general. Absolutely.

Mr. Nowak. The 404 permit program as you know, could be if requested by the State turned over to the State in its present form. Many States have refused to take that over and I suspect it is because of the requirements that are written in the law for management. Has your State looked at that possibility? Do you know?

Mr. Soileau. Have we looked into the takeover of the permitting process?

Mr. Nowak. Right.

Mr. Soileau. Well, not seriously, no. I think that we would certainly like the provisions to do that in Senator Breaux's bill. We would like to think that we would be given an opportunity to do that, but in all honesty it will require significant increases in manpower and in funding in order to be able to handle that size of a regulatory program. We would at the same time hope that a wetlands preservation trust fund, a centralized authority in the governors office would be forth coming so that, in fact, if and when afforded an opportunity to take over that program we would have the funding and the capability to handle it.

Mr. Nowak. I think that would probably be a large incentive to take it over if, you know, you had the amount of funds that you could dedicate directly to the management of that program. Let me ask you another question. We have had a lot of testimony, a lot has been written on Louisiana's vanishing wetlands and the Conservation Foundation talked about Louisiana and outlined the problem of the Federal Government and the series of dams and levies, structures, really beginning a long way from Louisiana. And the buildup that you had as the Mississippi whipped down over those many thousand years building this terrific delta, probably is not forthcoming anymore. You are never going to get the sediment that was washed through the system because of other actions, perhaps by other State governments, requesting certain levies or certain dams north of you. And I am wondering how the replenishment process would take place, or if there are any specific changes that the State would like to see from any levies or dams within their State geographic balances, or have we looked at the impact of the levies further up north?

Mr. Soileau. Well, I do not know that we have looked outside of the confines of the State regarding what adjustments upstream would afford us additional sediment. I will say this though, that we have proposed currently, conceptually at least, seven or eight locations along the Mississippi and Atchafalaya Rivers that we believe if a significant diversion of water were to be allowed at those areas we could create an appreciable amount of vegetated wetlands in open water. There are those researchers in Louisiana too, today who indicate that much smaller amounts of sediment at a number of places would, at the very least, maintain the vegetated wetlands that we have today and basically eliminate the current rate of loss. So admittedly there are a very few and limited number of areas where we can actually create new wetlands, but there are a significant number of areas in which we can actually reduce that rate of loss, the current rate of loss significantly, if not all the way to zero.

Mr. NOWAK. You know up in the helicopter this morning as we were going by certainly, you know, the problem of salt water intrusion which is really the other side of the question. If you cannot get sediment down and freshwater into the wetlands the other side of the question is, how do you prevent the intrusion from getting into your lowlands? Especially around the coastal area where it seemed to me you have only got a two or three foot differential between losing more wetland very quickly. And I just, looking at, what was the road, Jimmy?

Mr. HAYES. Eighty-two.

Mr. NOWAK. Eighty-two? We were driving back which parts have already I am sure have been washed in. All of that land behind there, if you get a 50 to 60 mile, I am not even talking about a hurricane. You have got to have enough wave action to pick that up seven or eight feet, which would carry you over the road and start to intrude on the area around that is treed and looks very nice. And you have, I would think, a substantial amount of damage just waiting to happen without a hurricane. And that intrusion then becomes, you know, a large part of it. As we were flying, we had the overflight looking at the amount of canals that have been constructed inward, you know, carrying in the saltwater. I am just wondering if in your investigations that coastal, that very near coastal area, wetlands that are different from your upper "wetlands", if there was any more immediate initiative or solution to that problem that anybody has discovered?

Mr. SOILEAU. I will just mention from the process point of view, and then the people in the program business, you can do it two ways. You can either have a lot more freshwater and flush it out, push it out, and that is the purpose of Caernarvon and the freshwater structures that are already there, is to keep that wedge out. Secondly,——

Mr. NOWAK. Am I right? We are only talking about a three, four foot differential between that lower wetland area and the banking which in some areas is eroding?

Mr. GROAT. If it had destruction of the navigational canal banks which has allowed more water in, we have canal systems that were dredged for access for various reasons that allow saltwater in, and that is the reason some of those are permitted, have continuous levees around them to keep saltwater out. And then the other solution is to engineer saltwater out and that is part of what marsh management is about in certain areas, is to control salinities by controlling its access to areas that you do not want to become more salient. And that certainly works. It is a question of how much you can do and to what extent will it solve the problem. But keeping that saltwater out and controlling it is an important part of any coastal restoration process, on a big scale and on a small scale.

Mr. Nowak. Does the amount of precipitation play a large factor in that freshwater coastal area?

Mr. Chambers. Most definitely. That Cameron Creole Watershed Project we saw today, the structures are doing just that. They are stopping the saltwater from getting into the area and then allow it to retain a freshwater head from runoff, or as we proposed to put some freshwater diversions from the Intracoastal Waterway in that area where it has freshwater into the upper end of the watershed. And that will allow maintenance of a freshwater head that can keep that saltwater out.

Mr. Nowak. All right. Congressman Hayes. Thank you. Mr. Hayes. I want to ask both Davids and you the same question and get your response. You were here earlier today, we were talking about the mission or change of mission statement in the Corps. Leaving aside for a moment, the Breaux legislation of which we are speaking and the 404 permitting process for one of the States, what would be your position on what should be the role and mission of the Corps within the confines of where we are talking about wetlands management and not within the possible enactment of the Breaux legislation and Tauzin's legislation to which we earlier referred?

Mr. Soileau. Congressman, we are clearly on record from the State as supporting an expanded mission with the Corps of Engineers to include a coast restoration. I am very discouraged, however, about the activities of the Corps of Engineers in the arena of coastal restoration for the last 30 to 50 years. Frankly, it is my view that they have had sufficient authority and flexibility to have done much more than they already have done, not the least of which the authorities came in the Water Resource Development Act of 1986, or which there were at least two sections that I can recall that specifically authorized them to modify, manipulate current projects, dock project designs, in the name of, coastal restoration.

It is my understanding, and certainly they can clear, if they correct the record, suggest differently if they like, but it is my understanding that they have not even developed the policy and guidelines in order to implement those two sections in the Water Resource Development Act, in the name of coastal restoration. So, I am not at the same time that I say let us give them an additional mission in the hopes that they will spur them to do more and better things in the future, I am not very encouraged, because they apparently have significant authorities and have done very little with that.

Mr. Hayes. And I will also ask, David, you had mentioned the Water Resources Development Act. It has got provisions for pilot projects. What has been your experience? I will add that to my previous response of mission statement. What has been your experience and your predecessors' with the Corps under the Pilot Project

Provisions or some of the latitudes given under the 1986 legislation?

Mr. CHAMBERS. Okay. I will start first with the mission statement. I would like to see the Corps adopt that and make that a coequal purpose so that projects they do undertake balance wetlands preservation more equally with development interests. In that context I think the Corps mission should be enlarged. As to whether they should take the lead role amongst the Federal agencies in developing wetland projects, I am not so sure that is the best answer. I think maybe we need a composite of the number of agencies. With respect to specific projects under, for example, Section 1135 or Section 1155, we submitted a number of project requests through the Corps and I believe under Section 1135 they got as far as the office of the chief engineer in Washington, at least two of them did. And I think that is where the progress ended. I have heard nothing since, and from what I understand as Dave said, there was no guidance given on how to implement these from the office in Washington.

Mr. HAYES. Am I correct in concluding that what you are saying is that the 1986 Act had a mechanism, the State used that mechanism, at least under those sections to try and initiate specific projects and they were not denied, they just in fact have vanished from the regulatory scheme?

Mr. CHAMBERS. That is correct.

Mr. HAYES. With that in mind, what——

Mr. NOWAK. I might add the reason for that is that there was no request from the Administration to fund that program. That makes things vanish very quickly.

Mr. HAYES. With that in mind then, what would be your view of mechanism? We have talked about the States role being enlarged and we have talked about a legislation that Senator Breaux has introduced and one that Congressman Tauzin has drafted for introduction, but briefly outline to me what you think would be ideal State mechanism, or if I am putting you on the spot for too quick an answer perhaps to follow up in this record. In other words we are talking about authorization, we are talking about a concept. Should the State have additional agencies? Should it be existing agencies? How do we avoid creating at the State level what we have just complained of at the Federal level where we are going to have turf wars and interagency conflicts? That is the thrust of my question.

Mr. SOILEAU. Well, as I mentioned in my formal testimony, there was a Constitutional amendment recently failed, as you all know, but it provided basically for the establishment of a central authority in the Office of Governor, within which would be housed the entire coastal restoration effort. It was designed that way in the hopes that by having that authority in the Governor's office, and he being the highest elected official and representative of the people, that he could personally be held liable and accountable for activities that were either done or not done, and therefore, he would be more reachable, rather than having a program hidden somewhere in one or other or several departments of government. I think that thought process is good. I think we can see that and we will see that begun to be discussed in additional State legislation in the upcoming regular session that just began about a week ago. So I think that is the proper way to handle it on a State basis.

I think that Senator Breaux's bill, his approach is another good avenue to pass Federal money through to the State and let the State be the responsible entity for developing a plan. Certainly with Federal oversight. But developing a plan and seeing to it that this plan is implemented so that we will not be constrained by administrative hangups and money problems and the Corps of Engineers, with or without missions, and things like this.

I would recommend one thing as a slight amendment or addition to the Senator's current bill. I would like to see at least three if not more Federal agencies in the oversight review. And perhaps even an agency other than the Corps of Engineers, as the pass-through agency for the money because I am concerned that the Corps of Engineers under its present national economic development thought process and benefit cost/ratio process, may find in the long term that nothing that the State of Louisiana may ever propose will be within their thought process of what should be funded. And I am very concerned about that.

Mr. Hayes. Thank you very much.

Mr. Nowak. Congressman Tauzin.

Mr. Tauzin. Well, let us start with the notion that the State has the current authority in Federal law to take over the 404 permit program right now. You can do it. You do not need a Constitutional amendment. Simply do it by State, I think, action, pursuant to Federal law. I think Executive authority could even do it. You have not done it. And I do not blame you, frankly. As I pointed out in the earlier panel, for the State to take over the 404 permit program, would not help us at all. The 404 Permit Program is wrong for Louisiana. It may be right for every other State with concerns about people putting dirt, fill material into wetland, such as farmers taking over potholes in Minnesota, where they have done that to seven out of their eight millions of acres of potholes. But in Louisiana, the 404 Permit does not work at all.

Now if we do in Federal legislation, only create new authority for the State, undertake a permit program like the 404 Permit Program, we will not be giving them much at all, will we?

Mr. Soileau. That is true.

Mr. Tauzin. You agree? Then is it not necessary. There is one difference in the language we are drafting on the House side, that is it. It seems to me and concur, or disagree with me if you will, that Federal law needs to be amended not only to give State authority in this area, but to change the regulatory program itself so that the State can put emphasis on permitting, not prohibiting the use of spoiled, dredged material from the rivers, to restore our marshes. Is that not correct? Anyone of you?

Mr. Soileau. Let me comment. I think the permitting program if and when the State were to be offered that opportunity should consist of both prohibitions and permissions, there are a number of activities that we have experienced in Coastal Louisiana in the past that probably should not have been permitted in our wetlands. I do fully agree with your comment, though, that there are a number of positive projects and activities that have been proposed for years that cannot seem to get a permit.

Mr. **Tauzin**. David, that is the point. The point is, that all we do is prohibit man's activity. You catch the bad activities certainly, but you also prohibit the good activities. And if we do not have a permit system that Louisiana can enforce, that can be used to expedite the approval of good activities, marsh management, relocation of spoil and dredge material. The fact that the Mississippi River is dumping all of its material off into the great, what is it called, the Mississippi Cone? The bottom of the Gulf of Mexico, instead of being used to restore our marshes, it is our problem. If we could simply use it somewhere else, we could solve much of our problem. We have all said that. And it seems to me that simply taking over the 404 Permit Program or giving you the authority to do the same thing in Louisiana is not going to cure a thing unless we change the emphasis of the program itself to encourage the permission of good things in marsh management and good things in coastal land restoration. Am I not right?

Mr. **Groat**. You are. Could I make a comment?

Mr **Tauzin**. Please.

Mr. **Groat**. On the dredge? You used the word and I sometimes do too. They do not like us to say, spoil, anymore. It is dredge material.

Mr. **Tauzin**. Well, it is spoiled. It is dredged.

Mr. **Groat**. But the Corps of Engineers has a conference every year where they talk about methods that are used to dredge materials. And in some places there are not many, because it is so contaminated with heavy metals and so forth that you do not want to put it in your environment.

Mr. **Tauzin**. I understand.

Mr. **Groat**. But that is not true in our area, by and large. So there are many, many opportunities and the Corps has done some innovative research as to how to use it to restore and refurbish wetlands. The problem is getting it done. And it always comes down to the mission is environmentally acceptable, least expensive way of doing things. And that is not to restore the marsh and that needs to be changed and that is part of the basic change, new material.

Mr. **Tauzin**. Got to get that changed. That is part of our drafts.

Mr. **Groat**. And we need to use every bit of sediment we have got in the coast. Whether it is dredged or whether it comes down the Mississippi, to restore wetlands. That is an important bank of material that we could use, if we only had the land to do it. And what you are talking about, will allow that to happen.

Mr. **Tauzin**. All right, second, are any of you acquainted with the ground and root work on Shell Island and Blacker's Parish? You are. Are you aware that Brown Root discovered that simply pumping land or pumping sand up on beaches may not be always the best solution. That one of our solutions is retaining, as you pointed out, the freshwater. And in keeping out the saltwater. And one of the ways to do it is by restoring not the tops but the bottoms of the channels, because that is where the saltwater comes in. And it is simply restoring the bottoms through whatever kinds of bottom ledges, or bottom dams we can create along the coast. It would have a great and beneficial effect. Is that not correct?

Mr. **Chambers**. That is correct.

Mr. TAUZIN. That kind of work would be a good work for the Corps of Engineers. And one of the good ways we could spend some Federal money and protect Louisiana's coast. Is that not correct?

All right. Third. David, you mention that the amendment was the first chance to have a trust fund that dedicates money to coastal erosion work. Are you acquainted with Amendment 1, about the Constitution of 1978?

Mr. SOILEAU. Yes.

Mr. TAUZIN. It is adopted to the Constitution. It does dedicate funds that we attempted to raise in 1978, but I might alert you to something new that you might not be aware of. It also dedicates any money we raise in the future from any offshore tax on oil and gas that passes through Louisiana. I point it out to you because we have a dedicated fund right now in the Constitution, 25 percent of which must be spent on coastal erosion projects and barrier island restoration. Seventy-five percent is dedicated to the retirement of State Ped. And if that fund were implemented with the passage of a renewed formula that would be approved by the Supreme Court under the limits of its decision on the first, use tax, that those monies would automatically, under our Constitution, be dedicated to become the base of State match to the Federal monies that are only going to come to us on some sort of match program. I point it out to you, and not to get your response. Only to make you aware of the fact that any new implementation of that act will automatically be dedicated by that amendment that is in the Constitution currently.

Fourth. It has been suggested that in addition to the water diversion projects from the Mississippi, that we have ongoing right now. The one that is under construction, to Davis Pond and the other at the stillway. That one of the ways we could restore the rest of the State between the Atchafalaya and the Mississippi at least, would be the relocation of the industrial, or the Intracoastal Canal South as a barrier line, together with water control structures that would funnel water from both the Mississippi and the Atchafalaya along that line and through controlled structures along it, along that entire marsh.

That is a major project. That is like Holland. It is a big one. But has any thought been given by the State to that kind of an idea? I will give you the genesis of it. It started in Terrebonne Parish, with folks like Leonard Chaber and I think Clifford Smith who is a surveyor engineer in the audience today. It was started by local people in Terrebonne County. But it seems to have a lot of pizzazz if you are talking about a major effort to relocate water that can retort either saltwater and put freshwater back in the marshes.

Has any work been done to examine that on the State level as a major sort of, super project the State might get into?

Mr. SOILEAU. No. It has not been included in the Governor's plan, as far as a single project being proposed. It certainly merits examination, though.

Ms. FOSTER. The only problem that I would see in that, is the ingress and egress, you know. The zonal parts of your wetlands and try to keep them fresh and intermediate. I have no problem with that, but ultimately if you try to dam off the whole coast or do what they call, poldering in Holland, where you actually impound the entire coast with structures and levees, then you are going to hurt fisheries production in the long run.

Mr. **Tauzin**. The suggestion is not to do that. The suggestion is to have water control structures much like the control recently completed by the Corps of Engineers in Bile Bush, which left open most of the time for egress and ingress of water and interchange, and is only closed during periods of flood and is in fact available if you do it right, as a diversion project, if you had water coming from the city. So I think the two ideas——

Ms. **Foster**. Could be accommodated.

Mr. **Tauzin**. At least ought to be examined. I only again, call it to your attention.

Finally, again my apologies, Mr. Chairman, for the time. Virginia, you pointed out I think an incredibly important fact and that is that the decline of the fur harvest in Louisiana, the rapid expansion of nutria populations and muskrats, is increasing the degradation of the marshes by at least perhaps as bad a rate as some of the other things we have done through manmade activities. Has any thought been given to a State program, either to create bounties for those animals or to a State program to provide some sort of system by which those animals could be harvested and the meat sold or distributed under a program for lots of good reasons? Lots of good purposes that meat can, be—I have eaten nutria, I am not sure you have, but it is mighty good meat. But it can be distributed for logical purposes including dog and cat food, what have you. Has any thought been given to an immediate program to do something about that exposure of animal population that is destroying the marsh? You detailed it graphically. What are we going to do about it?

Ms. **Foster**. A couple, multi-pronged approach. Number one, is we have formed through our track and through the people themselves a fur and alligator council and we are traveling around trying to promote the use of fur and alligator hides. And that is an uphill battle with the anti-trapping and anti-hunters coming into this country, spray painting people in airports. I mean, that is what we are dealing with and that is why that decline in fur production is there.

Another thing, I am giving people permits to shoot nutria, lying there in the marsh? So we are trying to accommodate. The police jurists for example, want to put bounties. We have beaver damage. They put a $10 bounty on a beaver tail, another type of predator control. You could put bounties on it and we do not have the money to put a bounty of $3 a hide on some of these.

Mr. **Tauzin**. Again, I point out to you, perhaps, that is something we ought to look at in terms of Federal, State proving, Jimmy.

Ms. **Foster**. The USDA might be helpful there. They have a——

Mr. **Tauzin**. There may be some way we can apply for Federal funds or something helpful in this area because the pictures you showed were incredibly graphic I think. And I have heard it from more and more people along Louisiana, that the nutria population is accelerating marsh laws by even faster rates than some of the canals we have dug. And I suggest maybe we ought to get together at some point and talk about how we can do something.

Ms. **Foster**. If you have any leads in that matter, we will do whatever you can come up with.

Mr. **Tauzin**. We will proceed with it. Thank you, Mr. Chairman.

Mr. **Nowak**. Thank you very much, and we will again, I will just remind you, keep this record open. We would hope that there could be some agreement as to the beneficial side of the 404 program. And that not only does it have to stop drainage but on the other hand what if the drainage is beneficial? We agree, this is not a science, it is really an art. I guess it is new enough to the Corps and to the other Federal agencies as it is to the state, and trying to resolve those apparent conflicts I think is very difficult and they are trying to write a general law to take care of an awful lot of specifics out there.

We have got to find a way to target this law better, and any suggestions you have along those lines and talking to people that you are working with especially in the private community who are trying to perhaps be of some help but have given up because of the permitting process itself. Thank you for your attendance here and we will again hold the record open for anything that you would like to comment on above and beyond your statements that you have heard from the Federal Corps. And if you think about that specific question and give us your comments in writing we will incorporate that in the record.

Yes, sir?

Mr. **Chambers**. I would like to just make one comment here. We have done some cooperative work with the Environmental Protection Agency, as Norm mentioned, marsh terracing and through sediment diversion, I would just like to encourage you folks to try to expand EPA's role in that if possible. And also for the Soil Conservation Service, as you may be aware, they have a plant materials laboratory in Galliano, south Louisiana, and they have been very instrumental in providing seed stock for us and we have now developed a new portable hydroseeding technique that individual landowners can take in a bateau and run around their property and jet seed into the areas that they need to establish vegetation in.

The problem we have is an inadequate supply of seeds. So what we would like to suggest is encouraging or providing resources SCS needs to help provide those sources for us, so that we and the local landowners can begin implementing many of these measures on their own.

Mr. **Nowak**. Yes, we saw some of that new planting along the coastlines. I do not know if it is the same seed that you are talking about.

Mr. **Chambers**. Same species.

Mr. **Nowak**. Same species that has produced some bank improvement and certainly it looked like it was acting as a stabilizer because the areas that did not have it, you could see, washed right through.

Mr. **Chambers**. It is very cost effective.

Mr. **Nowak**. Cost effective and other shoreline protection measures whether they were cement or whether they were tied with steel, whether they were perforated, they are all overtide either washing over or washing under. And perhaps are going to be much less effective in the long term. We will look at that again. Thank you very much, again, for your attendance.

Ms. **Foster**. Thank you.

[The prepared statements of Mr. Soileau and Mr. Chambers follow:]

STATEMENT OF MR. DAVID M. SOILEAU, TECHNICAL COORDINATOR FOR COASTAL ACTIVITIES, OFFICE OF THE GOVERNOR, BATON ROUGE, LOUISIANA, BEFORE THE HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION, SUBCOMMITTEE ON WATER RESOURCES

MAY 12, 1989

Mr. Chairman, members of the Subcommittee, my name is David Soileau. I serve as Governor Buddy Roemer's Technical Coordinator for Coastal Activities. I appreciate the opportunity to appear before you today. My comments will focus on initiatives taken by Governor Roemer to ensure that the various departments of State government speak with one voice relative to issues that affect the wetlands of coastal Louisiana. I will also identify some State and Federal initiatives involving policy, legislative, and structural actions that, if advanced expeditiously, would have a significant impact on (1) reducing the rate of loss of vegetated wetlands in coastal Louisiana and (2) planning for and implementing significant restoration measures to reestablish vegetated wetlands in areas that have been converted to open water.

About a year ago, shortly after taking office, Governor Roemer established a Coastal Restoration Policy Committee composed of various cabinet-level individuals from a number of departments of State government that had interests or responsibilities in the areas of natural resources and coastal wetlands. He charged that group with developing a plan to identify measures to preserve, enhance, create, and restore vegetated wetlands in coastal Louisiana. A report addressing policy, legislative, and structural measures that could be taken to accomplish these goals was completed and unanimously adopted by the Policy Committee in August 1988. Subsequently, Governor Roemer appointed a Technical Coordinator to oversee the implementation of report-recommendations and to function essentially as a clearinghouse for the activities of other State agencies and departments that could impact coastal wetlands.

The report prepared by the Policy Committee identifies a number of recommendations which, if funds and authorities allow, could be implemented immediately or in the short term to reduce the rate of wetland loss in coastal Louisiana. The report also provides a number of long-term recommendations dealing with measures to restore or create vegetated wetlands in areas where they have been lost. The latter group of recommendations (e.g., major diversions of water and sediment from the Atchafalaya and Mississippi Rivers into coastal wetlands) are likely to have far-reaching impacts: socially, economically, and politically. Nevertheless, they must be addressed. Any real success in conserving and reclaiming even a portion of Louisiana's vegetated wetlands can only be accomplished through the implementation of such measures.

We anticipate that many of the smaller-scale, short-term structural recommendations would more appropriately be implemented by State and local governments and private entities, leaving the larger-scale structures to be further evaluated and implemented with Federal funding. With that in mind, Governor Roemer included a provision, in the constitutional amendment brought before Louisiana voters on April 29, 1989, calling for establishment of a Wetlands Preservation Fund. That amendment would have provided, for the first time in Louisiana, annually recurring revenues dedicated to coastal restoration. Although the fiscal-reform, constitutional amendment failed, our hope of providing for such a dedicated fund has not diminished. There are, in fact, a number of bills currently being considered by the Louisiana Legislature that would establish such a trust fund. We are optimistic that this issue will receive favorable consideration.

We applaud President Bush's new national goal of "no net loss of wetlands." We disagree, however, with Assistant Secretary of the Army Robert Page's observation (in testimony to the House Appropriations Subcommittee on January 31, 1989) that "...no net loss is by nation, not by specific projects." To believe that is tantamount to acknowledging that wetland losses from individual, Federally-sponsored or permitted projects have never been nor can they ever be mitigated. The record, in Louisiana, clearly shows that when a genuine effort was made by the Corps to mitigate adverse wetland impacts from a water resource development project or to require appropriate mitigation from the recipient of a Federal permit on a case-by-case basis, that mitigation generally proved to be effective and successful. There is no reason to assume that this could not continue to be the rule rather than the exception. In Louisiana there is ample opportunity within our vast reaches of deteriorating coastal wetlands to provide adequate area to mitigate future water development projects. We believe that a no net loss of wetlands goal from development via mitigation is attainable.

There are, in fact, current proposals in the State Legislature that would move Louisiana into the forefront Nationally with respect to achieving no net loss of wetlands from future development activities permitted in our coastal wetlands. In short, legislation currently being considered would provide for a prohibition against non-water-dependent developments in coastal wetlands and for mitigation of those water-dependent activities that would be permitted. We encourage similar National legislation. To truly achieve the intended goal of no net loss of wetlands, however, would require significant levels of Federal funding to construct massive projects intent on restoring the thousands of acres of coastal Louisiana wetlands that have been lost as a result, primarily, of Federally sponsored and permitted activities over the past 50 years.

Louisiana intends to do its share. But, it is important for you, as National leaders, to understand that we did not get into this predicament without help. Dredging and leveeing of rivers in upper parts of the Mississippi River Valley, to provide for navigation and flood control, forced increased runoff into Louisiana. This, of course, required the construction of levees and floodways in this State to alleviate flooding caused by the increased runoff. The long term impact of such activities was to cut off sediment rich waters from our coastal marshes, leading to their accelerated deterioration and, in the absence of significant intervention, eventually to their total demise.

To combat such long term impacts, we need nothing short of the kind of program and funding that would be provided via the legislation being sponsored by Senators Breaux, Johnston, Mitchell, and others; namely Senate Bill 630. If enacted, that bill would provide from $140 to $150 million a year to be used to conserve, protect, and restore coastal wetlands in the State of Louisiana. Passage of this bill would be an important step forward in helping to attain the goal of no net loss of wetlands as it relates to loss trends that have been set into motion by nearly a half century of Federally sponsored navigation and flood control projects in Louisiana.

Also from a Federal perspective, I refer you to two rather obvious opportunities to address coastal restoration via ongoing programs within the U.S. Department of Agriculture. Currently, the Watershed Protection and Flood Prevention Act (Public Law 83-566) authorizes the Secretary of Agriculture to cooperate with states, local agencies, and landowners in planning and implementing improvements for soil conservation. That law provides both for technical and financial assistance. Where it is being applied, planning and cost-sharing assistance to landowners is being provided for a number and variety of approved structural improvements. It appears that projects designed and implemented to protect coastal wetlands from erosion would fit well within the authority and framework of this program. However, I understand that, at present, it is the policy of the Soil Conservation Service that Public Law 566 funds be used to cost-share with landowners on only upland soil conservation projects, not on coastal soil conservation projects. With that in mind, we request that this Committee do whatever it can to bring about a positive change in this policy relative to Louisiana coastal marshlands.

A second program, administered by ASCS, currently provides cost-sharing for landowners to install erosion control measures in areas being used to commercially produce certain agricultural crops such as grains, vegetables, livestock, and other agricultural commodities. Our coastal marsh areas do not qualify for participation in this program because owners of coastal wetlands are not considered commercial agricultural producers. Hereto, we recommend that this Committee request that the Secretary of Agriculture expand the scope and definition of "agricultural producers" for purposes of extending eligibility within this program to landowners and operators who manage coastal wetlands for the production of furbearers, alligators, and the like.

I have included as an attachment to my current testimony, an April 4, 1989, statement provided by Governor Roemer to the House and Senate Committees on Appropriations, Subcommittees on Energy and Water Development. That statement identified a number of specific recommendations for appropriations to address immediate coastal restoration needs in Louisiana.

We encourage you to endorse these recommendations in meetings with your Congressional colleagues.

In summary, I would like to reiterate that the loss of vegetated wetlands in Louisiana has reached catastrophic levels. It is a problem that Louisiana is taking very seriously and plans to address both legislatively and financially to the maximum extent possible. We believe, however, that the fish and wildlife resources and economic values of coastal Louisiana are National in scope. Louisiana marshes serve as the principal nursery for the fishery resources of the entire the Gulf of Mexico. They likewise provide necessary winter habitat for 70 percent of the waterfowl of the Mississippi Flyway. We also believe that a large percentage of the ongoing wetland loss trend in the Louisiana coastal area has been brought about by a half century of Federal planning and construction of single-purpose flood control and navigation projects. Those considerations, we hope, will lead you, as they have us, to conclude that large-scale Federal intervention is not only warranted but should be mandated.

We believe that a major step forward in the process of elevating this issue to a National level has been taken by Congressman Hayes in inviting this group to Louisiana. Mr. Chairman, we are very grateful for the opportunity to present testimony to your Commttee.

I think Louisiana is especially fortunate, also, to have an entire Congressional Delegation that is sensitive and responsive to the need to secure critical Federal policy changes, legislation, and dollars to battle coastal wetland deterioration in this State. We trust that all of you will work harmoniously toward those goals.

Thank you

STATEMENT OF GOVERNOR BUDDY ROEMER, STATE OF LOUISIANA, BEFORE THE SENATE COMMITTEE ON APPROPRIATIONS, SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT AND HOUSE COMMITTEE ON APPROPRIATIONS, SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT, APRIL 4, 1989

Mr. Chairman, members of the Subcommittee thank you for the opportunity to present the State of Louisiana's public works appropriation recommendations for FY 1990. My statement focuses on these parts: discussions on coastal wetland deterioration, flood control and navigation concerns, and specific amendments proposed to the administration's budget allowance.

Coastal Wetlands Deterioration

Coastal wetland loss in Louisiana exceeds 30,000 acres per year. In May 1988 I established a Coastal Restoration Policy Committee consisting of cabinet-level officials charged with developing a set of prioritized recommendations to preserve, enhance and restore vegetated wetlands in coastal Louisiana. The Policy Committee presented me with their report in August 1988.

That report identifies a number of recommendations which, if funds and authorities allow, could be implemented immediately or in the short term to slow the rate of wetland loss in coastal Louisiana. The report also provides a number of long-term recommendations dealing with measures to restore or create vegetated wetlands in areas where they have been lost. Those recommendations (e.g., major diversions of water and sediment from the Atchafalaya and Mississippi Rivers into coastal marshlands) are likely to have far-reaching impacts: socially, economically, and politically. Nevertheless, they must be addressed; any real success in conserving and reclaiming even a portion of Louisiana's wetlands can only be accomplished through the implementation of such measures.

We in the State are coordinating closely with the Corps of Engineers and other Federal agencies in an attempt to initiate the final phase of a Louisiana Comprehensive Coastal Wetlands Study; we endorse your funding the Federal share of the costs of that study. The primary purpose of the study is to evaluate the currently proposed long-term recommendations of my Policy Committee and any other plans which the Corps of Engineers and the State of Louisiana mutually agree have reasonable merit in the battle against wetland deterioration.

The study output would not be traditional in the sense that a benefit/cost ratio above parity would be required to recommend Federal funding. Sufficient legislative authority exists under Section 907 of PL 99-662 to allow Federal funding for projects that offer real opportunity to benefit fish, wildlife and their habitats, without requiring that monetary benefits exceed costs. The study would list alternative recommendations intended to enhance and restore coastal wetlands in Louisiana. Prioritization of recommendations would be based on anticipated success in accomplishing the goals of wetland enhancement and restoration, and to some degree on

ATTACHMENT

comparative costs, while not allowing the traditional benefit/cost analysis to be the driving force in selecting among a number of viable alternatives.

Section 906(f) of PL 99-662 authorizes that the first costs of enhancement measures carried out for the Mississippi Delta Region, Louisiana Project, (specifically the Caernarvon and Davis Pond Freshwater Diversion Projects) shall be 100 percent Federal. Nevertheless, the State was forced to agree to provide 25 percent of the costs of the Caernarvon Structure in order to get construction initiated. We expect at least a 25 percent state cost-share request for construction of the Davis Pond Structure.

Section 3(a)(8) of PL 100-676 authorized construction of the Bonnet Carre' Freshwater Diversion Structure, as a companion to the two previously mentioned. The authorizing legislation was mute in regards to cost-sharing, although the fish and wildlife resources to be enhanced by this project must also be considered National (pursuant to Section 906(e) of PL 99-662). The Bonnet Carre' Diversion would directly benefit the resources of both Louisiana and Mississippi. The maintenance of the Gulf of Mexico fishery depends heavily on Louisiana's wetlands. The waterfowl population of the Mississippi Flyway cannot be sustained without maintenance of the wetlands to be benefitted by this project. This, of course, would justify the first costs of construction to be 100 percent Federal.

The dwindling renewable coastal resources of Louisiana are of National significance. Congress has indicated at least the intention that two of the freshwater diversion projects (Caernarvon and Davis Pond) be constructed entirely at Federal cost. Considering the National significance of the benefits to accrue from the Bonnet Carre' Structure, we hope that you share our view that Federal funds adequate to construct all three structures should be appropriated.

Those three freshwater diversion projects are to be the first water resources development measures undertaken by the New Orleans District Corps of Engineers in the name of fish, wildlife and wetland enhancement. The Corps' traditional mission, that essentially limits its focus to navigation and flood control matters, has contributed substantially to the deterioration of the vast coastal marshes of Louisiana. We strongly encourage expansion of the current mission of the Corps to include (on a co-equal status with flood control and navigation) protection, enhancement and creation of vegetated wetlands. Specifically, Section 1155 (PL 99-662) should be extended for another 10 years at a $10 million per year appropriation level. Its implementation should be considered to be among the highest of priorities.

We applaud President Bush's new national goal of "No net loss of wetlands." We disagree with Assistant Secretary of the Army Robert Page's observation (in testimony to the House Appropriations Subcommittee on January 31, 1989) that "... no net loss is by nation, not by specific projects." To believe that is tantamount to acknowledging that wetland losses from individual, Federally-sponsored or permitted projects have never been nor can they ever be mitigated. The record, in Louisiana, clearly shows that when a genuine effort was made by the Corps to mitigate adverse wetland impacts from a water resource development project or to require appropriate mitigation from the recipient of a Federal permit on a case-by-case basis, that mitigation generally proved to be effective and successful. There is no reason to assume that this could not continue to be the rule rather than the exception. In Louisiana there is ample opportunity within our vast reaches of deteriorating coastal wetlands to provide adequate area to mitigate future water development projects. We believe that a no net loss of wetlands goal from development via mitigation is attainable.

It is not surprising that so few Section 404 permits for non-water dependent activities in wetlands are ever denied by the Corps of Engineers, when Mr. Page himself (in testimony to the House Appropriations Subcommittee on January 31, 1989) finds "... the concept of non-water dependency so unclean." Probably the most widely accepted definition of non-water dependency is found in EPA's 404 (b)(1) Guidelines, promulgated pursuant to the Clean Water Act. By definition, a non-water dependent activity is one that does not require access or proximity to or siting within a wetland to fulfill its basic purpose. Even to the most liberal regulator, it should appear reasonable to assume that condominiums, hotels, motels, golf courses, airports and shopping centers, to name a few, do not, to fulfill their basic purpose, need to be sited within a wetland. The Louisiana Legislature in its upcoming regular session will be considering a legislative proposal to prohibit non-water dependent developments in wetlands and to require full mitigation of water-dependent developments that are allowed in its wetlands. We would encourage similar National legislation.

Regarding the Avoca Island Levee Extension, it is important to remember the limits of the benefits to accrue from the levee and to carefully weigh these limited benefits against the levee's estimated cost. Backwater flooding is only one of the causes of flooding being experienced in the area east of the Atchafalaya Basin Floodway. Flooding caused by headwater runoff, tidal influence, hurricanes and rapid subsidence will continue to plague this area even after the $120 million (plus) levee extension is installed. My staff is, at this time, working with local government officials in the impact area to develop alternatives to the Corps' proposed Avoca Island Levee Extension. An alternative barrier levee plan now under development may prove feasible, and at a cost near that proposed to be spent for the levee extension. A well-planned barrier levee would provide flood relief from other forms of flooding and would result in fewer environmental damages. We urge you to hold your support for any Corps proposal to extend the Avoca Island Levee until alternative options can be fully explored.

We in the State have identified a number of measures that, if implemented quickly, could have an immediate positive impact on the wetland loss problem. Some of these measures are a primary responsibility of the State, in cooperation with local governments and private individuals. Many of those recommendations involve modifying the operation or maintenance procedures of recently authorized or on-going Corps of Engineers projects in Louisiana and, accordingly, must be implemented through that agency.

Flood Control and Navigation

Since 1879 local expenditures for flood control in Louisiana have exceeded $730 million. This amount adjusted to 1979 dollars represents expenditures in excess of $5.3 billion. Nearly one-half of the potential flooded area of the Lower Mississippi River Valley lies in Louisiana. This record not only meets, but exceeds any National Water Policy local participation requirement ever put into practice.

The State of Louisiana has historically supported and provided the non-federal cooperation needs in assisting and developing navigation improvements in Louisiana for National benefit. Louisiana has three of the top deep water ports and 18 shallow draft port facilities in the country. We intend to continue to provide the country with the benefits to access to foreign markets.

The Office of Management and Budget has proposed a 50% reduction and a 50/50 cost share for both the Floodplain Management Services Program (Section 206 of the 1960 Flood Control Act) and Planning Assistance to States Program (Section 22 of the 1974 Water Resources Development Act). The FY 90 request of $10.5 million for Section 206 and $5 million for Section 22 represents a 5% and a 9% increase over FY 89 appropriations respectively. These two programs are not grant programs in as much as they provide extensive flood loss reduction services and information to state and local governments. These services include such things as specific base flood hazard data and mapping, hurricane evacuation studies (including New Orleans and 9 surrounding parishes), coastal land loss and erosion control data, and basic planning assistance in flood control and water supply and waste water treatment. Since these two programs are not grant programs, it is recommended that the 50/50 cost share be eliminated and that the requested funding for FY 90 be restored.

We generally endorse the Administration's FY 90 budget request for water resource projects in Louisiana with the exception of the following specific amendments:

Louisiana Shoreline Erosion Inventory

(Budget: 0) (Request: $50,000)

One of the recommendations that have been made to reduce or stabilize coastal barrier islands and headlands involves nourishment of these areas with offshore bottom sediments. It is critical then that inventories of available bottom sediments in these areas be developed. We recommend that this inventory be initiated in this fiscal year.

Mississippi and Louisiana Estuarine Areas

(Budget: 0) (Request: $1,000,000)

It is our understanding that preparation of final plans and specifications are nearing completion. We note, however, that the Administration has not requested funding to begin construction. In view of the significant enhancement value of this project to coastal wetlands and associated fish and wildlife resources, we urge that it be funded to start construction this fiscal year.

Mermentau, Vermilion and Calcasieu Rivers and Bayou Teche
(Grand and White Lakes Area)

(Budget: 0) (Request: $100,000)
We recommend the appropriation of funds necessary to allow the Corps to have the staff capability to operate the Catfish and Schooner Bayou Water Control Structures in southwest Louisiana on a 24-hour basis. It is widely recognized that water is currently being impounded to an excessive level, to the detriment of marsh, in the Grand and White Lakes area, partially as a result of the inability of the Corps to operate these structures on a round-the-clock basis and to take advantage of every opportunity to lower water levels. While waiting for the completion of a Corps study of management needs in the entire area, we believe that this measure would significantly enhance marshes now.

Algiers Lock

(Budget: 0) (Request: $25,000)
Operation of the Algiers Lock to allow freshwater to flow from the Mississippi River to the Barataria Basin would provide a reasonable, inexpensive opportunity to divert water into a basin that is currently suffering from saltwater intrusion problems. We, accordingly, encourage the appropriation of funds to allow the Corps to increase operation of the Algiers Lock to allow for freshwater diversion.

Maintenance Dredging for Marsh Creation

The New Orleans District annually dredges 60 million cubic yards of material in the maintenance of navigation channels. When considered by the Corps to be "economically feasible", some of this dredged material is used to create vegetated wetlands. If all of this material were deposited in shallow open water in coastal Louisiana over 6,000 acres of marsh could be created each year. On that basis, we recommend that additional funds be appropriated to the Corps to provide the "incentive" to maximize the use of dredged material to create marsh. As it is difficult to assess the precise amount of additional funding that would be required, we are recommending additional funding in the amount of 10 percent for each of the projects listed below. This is to be provided specifically to cover the additional costs that might be associated with spoil placement for marsh creation. If the Corps were to determine that actual cost requirements would exceed 10 percent, we would encourage an increase in allowance to the extent needed to accomplish the goal of maximizing marsh creation with dredged material.

Projects for which increased funding is requested for marsh creation with dredged material include the Atchafalaya River, Bayou Chene Boeuf and Black; Barataria Bay Waterway; Calcasieu River and Pass; Gulf Intracoastal Waterway; Houma Navigation Canal; Mermentau River; Mississippi River, Baton Rouge to the Gulf; Mississippi River Gulf Outlet; Mississippi River Outlets, Venice; Pearl River; and the Bayou Lafourche and Lafourche - Jump Waterway.

Atchafalaya Basin

(Budget: $32,800,000) (Request: $32,800,000)
The Sherburne freshwater control structure will provide the hydrologic capability to improve fishery and waterfowl habitat conditions on the State Sherburne Wildlife Management Area, Atchafalaya National Wildlife Refuge and Corps of Engineers recreation lands in the floodway. The structure will mitigate problems that have resulted from blockage of flow resulting from construction of the main river levees. Construction of the structure should be added to the administration proposal as a priority activity for FY 1990.

Atchafalaya Basin Floodway System

(Budget: $11,700,000) (Request: $11,700,000)
Acquisition of lands in fee title from willing sellers should continue as the first priority. Acquisition of the authorized environmental protection easements should proceed subsequent to but not before a Memorandum of Agreement between the state and Corps of Engineers, wherein the State agrees to assume management responsibility, is consummated. The easement rights to be purchased should include the right to provide control over the method of timber harvest as is specifically addressed in the Corps' report upon which authorization is based. Merely the regulation of clear cutting as addressed in the November 1988 Real Estate Design Memorandum is not adequate. The forested wetlands of the Atchafalaya Floodway require environmentally sensitive timber cutting regulations specific to the area.

Red River Waterway

(Budget: $97,000,000) (Request: $101,800,000)
A $2,500,000 appropriation for the acquisition of up to 5,000 acres of mitigation lands in the Stumpy Lake / Swan Lake / Loggy Bayou Wildlife Management Area vicinity is required. Construction of the waterway is proceeding. Our proposal is conservative in that it represents less than 40 percent of the authorized level of mitigation. Acquisition of lands in this specific amount would contribute significantly to state efforts to solve the Stumpy Lake / Lake Bistineau erosion problem, capitalize on the availability of low cost lands from willing sellers and allow the state to maximize wetland and waterfowl benefits from design and operation of its Stumpy Lake / Lake Bistineau erosion control project. In addition, we are requesting $2.3 million to begin construction on Locks and Dams 4 and 5 and to do work on the Vick extension, Saline Bend Dike and Blakewood, Pump Bayou and Grand Lake reinforcement dikes in Fiscal Year 1990.

The State of Louisiana wishes to commend the Appropriations Sub-Committees on Energy and Water Development and to express our appreciation for the foresight and understanding exhibited for water resources projects which are vital to National and our State interests. We solicit your further consideration of the recommendations presented herein.

STATEMENT OF MR. DAVID CHAMBERS, DIRECTOR, COASTAL RESTORATION DIVISION, LOUISIANA DEPARTMENT OF NATURAL RESOURCES, BATON ROUGE, LOUISIANA, BEFORE THE HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION, SUBCOMMITTEE ON WATER RESOURCES

MAY 12, 1989

Mr. Chairman, members of the Subcommittee, my name is David Chambers. I serve as the Director of the Coastal Restoration Division, in the Louisiana Department of Natural Resources. I appreciate the invitation to provide testimony to your subcommittee today. My comments will focus on the state's existing and planned coastal restoration projects and ways in which the federal government can assist the state in reducing vegetated wetland losses.

Louisiana's vegetated coastal wetlands were formed over the last several millennia by deposition of sediments carried by the Mississippi River and its distributaries. Since 1928, the federal government has artificially confined the river water within flood protection levees, thus preventing the natural overflow of water and sediments that built and maintained Louisiana's coastal marshes. Other major impacts to our coastal wetlands include the dredging of deep navigation channels by the federal government to support interstate commerce, and oil and gas exploration off Louisiana's coast to help meet the nation's energy needs.

The state's program to restore and maintain vegetated coastal wetlands is designed to offset or mitigate these impacts. It centers around large-scale introduction of sediment and freshwater into coastal wetlands to mimic the former annual spring overflow of the Mississippi River. The presence of the Mississippi River within Louisiana's boundaries provides us with the nation's best opportunity to create, restore, enhance or maintain coastal wetlands on a grand scale. In no other state can coastal wetlands be created or saved on this scale simply by harnessing the energy of the Mississippi river to deliver water and sediments into deteriorated marsh and water bottoms.

This is not to say that introduction of large amounts of water and sediment can be accomplished without significant problems or substantial cost. Structures to introduce water safely from the river into adjacent coastal wetland basins will be expensive and their operation will generate controversy, particularly among oyster fisherman or others who anticipate adverse impacts by the introduction of freshwater and sediment. However, it is vitally important to realize that short term impacts to fisheries will be offset by the maintenance of the marshes and increased long term benefits to accrue to the fishing industry as a whole, if freshwater and sediment diversions are implemented. The enormous cost to society of taking no action and losing our wetlands must also be recognized. With the demise of the marsh, we will lose our fisheries, wildlife and the numerous other associated economic, recreational, and aesthetic benefits.

The first federal-state freshwater diversion structure, located at Caernarvon in Plaquemines Parish, Louisiana is under construction at the present time. Continued state and federal funding is needed for completing construction of this project and for future operation, maintenance, and monitoring costs. Two similar projects are planned for construction at the Davis Pond and Bonnet Carre freshwater diversion sites in St. Charles Parish. Federal funds and administration approval to initiate their construction will be needed for these projects.

It is important to remember, though, that these three relatively small projects are primarily for the purpose of salinity control and not for creating new marsh. Much larger structures will be required to create new vegetated wetlands. Such structures should be capable of diverting the large volumes of sediment needed to create significant areas of new wetlands and to help restore deteriorated areas on a coastal-basin scale. The state plan calls for several large structures to be evaluated. If constructed, such structures could be operated on a rotating basis to maximize sediment delivery and minimize impacts to basins in which they are located. These large sediment diversions will be expensive and will require federal funds for their construction.

The state has several joint planning efforts underway with the Corps of Engineers to develop plans for marsh creation or restoration projects. Among these is the Louisiana Comprehensive Coastal Wetlands Study. It will require administration approval before a cost-shared phase may proceed. Congressional inquiries may be needed to hasten the approval process once the Office of the Chief Engineer has received the reconnaissance report and the letter of intent from the state to cost-share in the planning study.

The Coastal Restoration Division has built or is planning a number of wetland restoration and preservation projects across south Louisiana. As an example, offshore segmented breakwaters will be used to provide shore protection for the Cameron Parish headland along Highway 82 between Constance Beach and Holly Beach. Experimental breakwater installations placed in this area several years ago have survived hurricane impacts and have protected the highway and the vast expanse of wetlands landward of the test segments. Wetland management projects and vegetation plantings have been implemented in many parishes and more are planned for the upcoming year.

The Coastal Restoration Division is evaluating plans for a variety of wetland preservation projects likely to be cost-shared with several coastal parishes. We are also preparing to construct a rock protection structure along the Gulf Intracoastal Waterway near Blind Lake in Cameron Parish. The structure is needed to prevent boat wake erosion into the Cameron-Creole Watershed project, thus preserving water level drawdown capability for the area. Other wetland areas along the federally-maintained Gulf Intracoastal Waterway have been damaged or may soon be damaged as a result of bank erosion. We recommend that Section 9506 of the Water Resources Development Act of 1986 entitled, "Inland Waterways Trust Fund" be amended with language requiring the Corps of Engineers to use a portion of the monies contained in the fund to prevent erosion of the Gulf Intracoastal Waterway banks into adjacent Louisiana wetlands and to install controllable freshwater diversions in areas where natural waterways were severed by the waterway construction. A plan to implement this work should be developed in consultation with the state.

On behalf of the Department of Natural Resources, I wish to express our appreciation for the efforts of this Subcommittee to help address our coastal wetland loss problems, and for the opportunity to present this information to you today. Thank you.

Mr. **Nowak**. Our last panel, this afternoon, is a panel of interested parties who have been directly and indirectly affected by Federal or state decisions in this area. They are people who have been involved in this wetlands question for quite a while and I wonder if we can have at this point, we will create a panel of the next witnesses. The first witness would be Newman Trowbridge, who is General Counsel, Louisiana Landowners Association. He will come forward with Gerald Voisin, who is the Manager of the Louisiana Land & Exploration Company. Sarah Schoeffler, who is the Director of Interfaith Stewardship. Rob Gorman, who is the Director of the Coalition to Restore Coastal Louisiana, and Ernie Colonna, of Restore.

First of all, let me thank you for your patience this afternoon. We were hoping to bring you forward a little earlier.

There does not seem to be enough time. We will have to go back and read a lot of the statements. We would appreciate your statements either in total or in summary as you desire, knowing that each of your full statements will be submitted for the record in its totality and published as part of the record, and analyzed and distributed to the other members of the Subcommittee, and those on the full committee who will look at this record once we start it again, we should look at special legislation. So, Mr. Trowbridge, would you proceed as you desire?

TESTIMONY OF NEWMAN TROWBRIDGE, JR., GENERAL COUNSEL, LOUISIANA LANDOWNERS ASSOCIATION, INC.; GERALD VOISIN, MANAGER, HOUMA DISTRICT, THE LOUISIANA LAND & EXPLORATION CO., ACCOMPANIED BY BILL BERRY, DIRECTOR, ENVIRONMENTAL AFFAIRS AND SAFETY, LL&E; SARAH SCHOEFFLER, CHAIRPERSON OF LOUISIANA COASTAL WETLANDS INTERFAITH STEWARDSHIP PLAN; ROBERT GORMAN, CHAIR OF THE COALITION TO RESTORE COASTAL LOUISIANA; ERNEST COLONNA, ON BEHALF OF MICHAEL TRITICO, BIOLOGIST AND PRESIDENT OF RESTORE

Mr. **Trowbridge**. Thank you, Mr. Chairman and the members of the Subcommittee. In the interest of time, knowing that the full testimony will be entered in the record, I will try to highlight this as much as I can and be brief as possible.

First of all, I think it important to note that I am neither a regulator nor a scientist, but rather an attorney and so perhaps I bring somewhat of a different perspective to this hearing. I have had the great pleasure and privilege of representing Louisiana Landowners Association for the last 15 years and members of that association own over 1.6 million acres of land within Louisiana, much of which is wetland, both within and without the coastal zone of Louisiana. I do not intend to go through some of the more well known facts that have been repeated often this afternoon, however, I do think there are a few facts that need to be cited during the course of my testimony which are, while lesser known, certainly no less pertinent to the discussion.

There are, according to most reports, most frequently cited number of acres, coastal wetlands is approximately five million acres, or 40 percent of the coastal wetlands in the United States. Of these, it has been estimated that approximately 4.4 million acres are privately owned. Now from this fact it is obvious that there is no group that is more greatly impacted, nor any group who has a greater interest in seeing the resolution to the problem of Louisiana's dramatic coastal wetland loss.

The causes of coastal wetland loss as we have heard today, are numerous. They are both natural, they are human. I am not going to go into that. You have heard that and will hear from that as you conduct your hearing. Several potential methods by which to reverse these losses have also been identified, and you have also heard extensively about those. They include water diversion, marsh creation, marsh management and the like. The state and the Corps are currently involved as I understand it in analyzing the economics of some of these structural measures. What I think everyone does know about these structural remedies or solutions is that they will run into the hundreds of millions of dollars.

Another method identified for addressing the problem is regulation of development in the wetlands. And perhaps because of the cost associated with the structural measures, and perhaps because of a sense of urgency coupled with the fact that the non-structural features can be addressed immediately without additional direct cost, it is the regulatory aspect which is receiving the greatest emphasis. Most proposed regulatory responses include the adoption of a policy of no net loss of wetlands, which would at a minimum require full mitigation of all losses, and the denial of permits for non-water dependent activities. There are several problems inherent in the application of such policies in a state such as Louisiana which has such vast expanses of land which are considered wetland.

Essential to this discussion in my opinion, is a discussion of exactly what is a wetland. It should be noted that on January 10, 1989, the Department of Army, Fish and Wildlife Service, and Environmental Protection Agency, and Soil Conservation Service adopted by agreement, the new Federal manual for identifying and delineating jurisdictional wetlands, which manual became effective March 19, 1989, and which for the first time adopts a single approach to be utilized by all Federal agencies in delineating jurisdictional wetlands pursuant to the Clean Water Act.

While the idea of a unified approach is to be applauded, the manual a detailed examination of which is far beyond the scope of this hearing, clearly has led to an expansion of the term, wetland, for regulatory jurisdiction purposes. Even before this expansion, I think it was clear and there are several instances pointed out in my formal testimony where lands located in central Louisiana and north Louisiana were considered wetlands for regulatory jurisdictional purposes.

The purpose of this, as far as this hearing is concerned, is to suggest to you that in my opinion, the public perception of what constitutes a wetland is far more limited than that contemplated by the new Federal manual and that proposed by many groups such as the National Wetlands Policy Corps. Yet adoption of a national policy of no net loss of wetlands unless specifically providing otherwise will undoubtedly be applied to all wetlands irrespective of their public use, of their public value or their location.

It is important to remember that over two million people live and work in coastal Louisiana and the region supports approximately 45 percent of the state's population. Population employment and land use projections clearly indicate that there is an insufficient supply of available non-wetland sites to accommodate foreseeable land use needs.

There are significantly fewer practical alternative non-wetland sites in Louisiana than in other states and considering these facts, the presumption of available non-wetland sites for non-water dependent activities provided in EPA's 404 B1 guidelines is essentially illusory.

Even assuming that the public consensus for action which support a complete halt to all development activities within coastal wetlands, Louisiana would continue to suffer staggering wetland losses. While the estimate of the contribution of present day activities to the overall loss varies among the experts, it is clear that those losses are insignificant in relation to the losses caused by the natural forces of subsidence, erosion, and man's activities in leveeing the Mississippi River. It is simply folly in our opinion to think that you can separate wetland loss from management of the Mississippi River, and without management of the Mississippi River as an integral part of any plan, all programs will continue to be short term solutions.

Having said that, let me also say that it is absolutely imperative that both Congress and the Louisiana Legislature adopt policies to address Louisiana's devastating coastal wetland losses. These policies, in our opinion, should take cognizance and make provision for the following:

One. There is a sufficient national interest to justify the expenditure of substantial sums of money by the Federal Government in the effort to reverse Louisiana's wetland losses. The United States has made a substantial investment in coastal Louisiana. They have invested billions of dollars in terms of navigation, flood control, and hurricane protection projects. If for no other reason there is a substantial national interest in protecting the investment of the Federal Government, through the expenditure of Federal dollars in an effort to prevent any loss of these investments through the erosion of the marshes which protect them.

The financial burden of this mission is more than the state of Louisiana alone can bear and the failure of the Federal Government to lend significant assistance will surely lead to the eventual loss of Federal as well as state, local and private investments in the area.

Two. All wetlands are not of equal value. The principal justification for the adoption of a national wetlands policy is the vital function which wetlands perform. The resource value of all wetlands is not equal and there must be a more realistic evaluation of the value of wetlands proposed for development. Particularly is this true in a state like Louisiana where so much of the state is characterized as wetlands and where alternative sites for development are so few. Where the removal of wetland through development will not result in a significant adverse impact upon the aquatic ecosystem, permit denial or the imposition of impractical or economically infeasible permit conditions should not be warranted. To aid in this evaluation process, wetlands should be divided into categories depending upon their public benefit value and special planning zones should be recognized in an effort to resolve unresolvable conflicts.

Three. Planning decisions should principally be a state function. Essential to the implementation of any national or state policy with regard to wetlands is the recognition that there will be a continuing requirement for economic and other activities of man. Since these activities will undoubtedly result in some wetland loss, the principal decision making should rest with the state. States are clearly in a better position to evaluate the impacts of any proposed project.

Four. Potential public versus private conflicts and takings implications should be avoided. Those lands with the highest public benefit value will undoubtedly be subjected to significant restrictions upon implementation of any proposed net loss or water dependency standard. To prohibit the use of wetlands for development purposes will effectively deprive the landowner of all beneficial use of the property and raise the issue of a taking. As diversion structures and marsh creation programs are put into place, there will undoubtedly be serious questions raised as to the public versus private ownership of the newly marsh. It is important in my opinion to the success of the efforts to reverse the coastal losses in Louisiana that these issues, to the maximum extent possible, be obviated. To this end, wetlands policy should consider the following:

Those wetlands having the highest public benefit value should be considered either for fee acquisition or for acquisition of surface use easements. The acquisition price should be based not on the traditional market value approach, but rather on the renewable resource value and public benefit value of the lands acquired.

Secondly. Conflicts have already developed in coastal waters with regard to public versus private rights. For the most parts, these conflicts have revolved around public claims to rights of passage through privately constructed canals. As public dollars are expended to achieve marsh creation and regeneration through structural measures, these conflicts will undoubtedly exacerbate and will involve not only coastal waterways, but the lands created. To reduce these conflicts, the establishment of property boundaries as of a specified date by agreement between state and private owners should be pursued. These agreements should provide public access to all areas subject to the agreements and reserve to the private owners, the ownership of subsurface minerals, irrespective of erosion or accretion.

Five. Wetland policies should recognize the value and encourage the participation of the private sector in wetland conservation. Landowners have for some time exhibited a willingness to initiate wetlands management programs on their property in an effort to save their lands and increase its productivity. These management programs normally entail semi-impoundments or impoundments of water and they have not been without controversy primarily because of their perceived impact on fishery resources and the fact that access is restricted in the vicinity of these projects. As a result, the permitting process with respect to these programs has been difficult, to say the least. While there are others testifying before this Subcommittee who are far more qualified to discuss the details of these programs than I, without question, the value of these programs must be recognized and encouraged by offering landowners tax and other financial incentives to initiate and maintain these management programs.

In conclusion, in view of the increasing loss of coastal wetlands in Louisiana, it is important that the issues surrounding implementation of goals and policies regarding wetlands be scrutinized and a consensus plan implemented at the earliest possible time. However, all of the implications must be carefully considered and the policies implemented to assure that the goals are achieved in a prudent, efficient and equitable manner.

Thank you, Mr. Chairman, and members of the Subcommittee for this opportunity to present testimony, and I will be happy to answer any questions.

Mr. NOWAK. Thank you. Let us go to Gerry Voisin, who is a Manager, Louisiana Land & Exploration Company.

Mr. VOISIN. Thank you, Mr. Chairman, members of the Committee and also my personal Congressman, Mr. Tauzin. I am Gerald Voisin, Manager of the Houma District for the Louisiana Land and Exploration Company, better known as the LL&E. With me is Bill Berry, Director of Environmental Affairs & Safety for the company. I am responsible for managing over 600,000 acres of LL&E's property in Louisiana, which consists mainly of coastal wetlands. LL&E is the largest private owner of such acreage in the nation. We appreciate the opportunity to appear before this Subcommittee today and discuss the loss of Louisiana's precious coastal marshlands.

The company and I are proud of our land. Since the early 1950's, we have recognized wetlands loss as a serious problem and have engaged in a conservation program to protect our property. Measures we have taken and continue to take are detailed in a paper titled, "One Company's Experiences with Wetlands Conservation," that is attached to my testimony.

We are pleased that wetlands loss, which has reached the critical proportions, is receiving the national attention it deserves. The Corps of Engineers currently estimates that up to 35 square miles of Louisiana marshlands are disappearing each year, over 20 thousand acres.

Based on our experiences and observations over the years as a large landowner, I would like to share with you some of our perceptions of this serious matter. Hopefully, they will be of value to you in charting a course to save Louisiana marshes.

First, in October 1988 the National Wetlands Policy Forum released a report containing recommendations for the protection, conservation and enhancement of all wetlands in the United States. The heart of the report is the interim goal, no overall net loss of wetlands. Since then, the goal has been adopted extensively, by President Bush, the Environmental Protection Agency, in proposed legislation, etc. It is an admirable goal. However, it is impossible to achieve in Louisiana.

The major cause of wetlands loss in Louisiana is a natural and ongoing geological process of the building and destruction of marshes coupled with the leveeing of the lower Mississippi River.

Because of man-made levees, all the river's sediment is presently channeled into the deep waters of the Gulf of Mexico, where it is lost and builds no new land. In the past, this sediment was discharged across the Mississippi River Delta to form new land. Based on these facts, it is impossible to achieve, no net loss of wetlands, in Louisiana. One major concern with a "no net loss" policy is that it will be interpreted on a permit-by-permit basis, which will be counter-productive for proposed work in Louisiana's wetlands.

LL&E has prepared a more detailed presentation on the subject, a copy of which is attached to my written testimony. Further, we have also produced a 14-minute wetlands loss video and would be pleased to show it to the Subcommittee, at your pleasure.

Second, most of Louisiana's coastal wetlands are privately owned. We estimate that over 75 percent of this acreage is in private hands. Yet, landowners are not provided an official role in any of the planning process, at either the state or the Federal level, concerning the preservation, restoration, and enhancement of wetlands. This must be changed. Not only is it the future of our land that is at stake, but we do have valuable input that should be considered.

Third, tax and/or other financial incentives should be given to landowners to encourage them to conduct projects to enhance and conserve coastal marshlands. For example, we understand the Agricultural Stabilization and Conservation Service funds 50 to 75 percent of certain farmland conservation projects. Comparable support levels for wetlands conservation seem appropriate, particularly since privately held wetlands also serve public needs as nursery grounds and habitat for fish, shrimp and other marine life and sanctuaries for waterfowl, song birds, and furbearing animals and other animals.

Fourth, the present dual state/Federal permitting scheme tends to discourage rather than encourage marshland conservation projects. The process is particularly frustrating, since on both levels different commenting agencies with different agendas all insist that permits primarily reflect their own concerns. Excessive time delays are one result. We have just waited over 14 months to receive a permit to simply maintain our erosion control structures. Further, it is not unusual for a final permit to contain conditions so different from the original application that the applicant cannot accept the permit since it will not allow him to achieve his intended goals.

LL&E recommends that the dual permitting process be eliminated and streamlined. Also, whichever level, state or Federal, ends up with the permitting function should use one umbrella agency to administer a comprehensive wetlands program. However, this agency should not be just another competing group added to the system.

Fifth, the existing dual permitting process is even more frustrating in attempting to permit Marsh Management Plans, particularly in light of the negative connotation of the term, marsh management. LL&E has a number of these plans that have been prepared by the Soil Conservation Service and are ready to be permitted. Implementation would aid in conserving our deteriorating wetlands. However, under the existing political and regulatory climate, it would be virtually impossible to obtain permits. Therefore, we are not actively pursuing the matter because we do not have the plans until the situation is rectified.

Finally, LL&E recommends that the key Federal agencies make wetlands matters priority issues, including adequate funding. For example, the U.S. Army Corps of Engineers should put marshlands protection on an equal basis with flood control and navigation.

I am also attaching to my written testimony two letters we have recently written that provide additional information on our views of Louisiana's wetlands situation. One is addressed to Mr. Manny Fernandez and dated January 4, 1989. The other is to State Senator Ben Bagert, Jr., dated March 13, 1989.

I hope these comments will be of value to you and all parties interested in conserving Louisiana's remaining precious wetlands heritage. The Louisiana Land and Exploration Company is dedicated toward working to the common goal. Thank you.

Mr. Nowak. Thank you very much. We would like to have that tape. If we could get a copy of it or if that is a spare one, we will certainly take it back and have the opportunity to view it.

We will have all our witnesses testify first, then start discussion. Sarah, would you like to present your testimony and again, we will take your total statement.

Ms. Schoeffler. I am Sarah Schoeffler, from Lafayette. I am the Chairperson of Louisiana Coastal Wetlands Interfaith Stewardship Plan. And we, our organization was begun with resolutions that were passed by the Louisiana Conference of Catholic Bishops, and the Louisiana Conference of the United Methodist Church. And from this mandate, which I would like to read for you today, we began our group. And we have been mandated to urge the people of Louisiana, particularly those in coastal parishes to accept personal responsibility for environmental stewardship. To recognize our moral responsibility to learn about coastal restoration efforts, to support groups active in protecting our wetlands, and to elect public officials who are committed to responsible environmental stewardship.

After taking this mandate we decided that we needed to do some research and listening to our technical advisors and we learned all of those statistics that you have heard today of the devastating loss of our wetlands. It is not only Louisiana's but it is a national resource that we are really glad that we have you down here recognizing this, that it is ecologically, often aesthetically, and economically beneficial to our Nation.

After these findings we decided that we would form a steering committee from the people of all faiths and we had decided that it was going to be an enormous procedure to tackle the education of the people of Louisiana just about the problems that are in our wetlands as well as the fact that there are solutions to these problems.

We put on nine forums in the last year and a half. We had technical advisors from the State and Federal agencies. We had public officials that participated with us. And a lot of citizens input. We have over 800 to 900 people participating with us in these forums. At these forums we tried to show people how they could get involved and participate in the wetlands solutions. We send out about 1,500 newsletters, about every two months, to inform people about the different issues that have come up, the different bills that you have passed, or are wanting to pass for the benefit of the wetlands. We also share with them different programs that they can put on for their local churches or their civic organizations that they are part of.

In addition to the forums we have expanded our efforts to educate people through speaking engagements to university classes, civic groups, elementary and high school classes and other church groups. We are now in what we call our phase 2, of our Stewardship Plan, and we have just been down in Representative Tauzin's Terrebonne Basin. We are going by a basin, to basin, approach where we are continuing to raise the level of concern for the problems, the solution that there is a solution and that we have input from the State and the Federal agencies as to what their plans are for this basin area and also an opportunity for the citizens who live in this area, who make their living from this area, who own the lands down in that area, to have input to the State and the Federal agencies as well.

We also are trying to increase the understanding of the immediacy of implementation of anything, any of the solutions. After a year and a half, we have come to some general conclusions from the input from the people that we have talked with in these forums and I would like to share some of those conclusions with you.

We see that there is a real problem to look beyond the short term self interest. And this self interest is in an overall obstacle for arriving at a consensus for solutions to our problems here. We find that there is no true unified effort between the local, State, and national governments, which without this unification, there is no way that we can achieve restoration.

We are encouraged by the initial steps by the State government in forming a position in the Governor's office, which is overseeing agencies and efforts within our wetlands, and we hope to see that this position will be legislated as an Office of Coastal Restoration Protection and Enhancement in our State. That it be adequately funded, adequately staffed, with authority to be about implementing the solutions.

We see as a real problem the inconsistency in issuing permits in the State and Federal agencies for operating in our wetlands. We have a real understanding that the mission of the U.S. Army Corps of Engineers must be extended to include along with navigation and flood control, coastal restoration protection and enhancement. We also see that the fact of cost benefits formula not be applied to the wetlands here in Louisiana and the no net wetlands loss be mitigated to Louisiana lands.

We must cut through a lot of the bureaucratic red tape to get to the work. Enough information and studies have been had to implement some of the solutions. And if the solutions are not immediately implemented the results to Louisiana and our Nation are liable to be very catastrophic. We are aware that some of the causes and severe loss have been created by the Federal Government, and we would hope that you would be willing to bear some of the responsibilities for the solutions.

We have been encouraged by the awareness of the problem in our State as well the bills and response from our Federal delegation. The fact that this hearing is being held here in our State is very important to us all. And it has given us a feeling that we have begun to be heard.

The Interfaith Stewardship Plan wishes to be a part of the solution. We commend you for having this hearing here. We request to be put on any mailing list that you would have with anything dealing with the wetlands of Louisiana. And we pledge to continue in our education of the people on this problem that has become a real stewardship responsibility of the people of Louisiana.

We are in hopes that this committee will go back to Washington and immediately begin enacting whatever measures necessary to implement and fund wetlands restoration and protection, or to do otherwise is to condemn Louisiana, the most productive ecological system in the United States, to a slow and painful death. Slowly eroding away and becoming lost forever. Thank you for your time today.

Mr. Nowak. Thank you very much. We will now hear from Robert Gorman who is the Director of the Coalition to Restore Coastal Louisiana.

Mr. Gorman. Good afternoon, Mr. Chairman, Mr. Hayes, Mr. Tauzin. Rather, good evening.

Mr. Nowak. It is getting there.

Mr. Gorman. I am the Chair of the Coalition to Restore Coastal Louisiana which is a citizens' action organization. We have over 70 member organizations in our year and a half of incorporation and I guess my first point is just to emphasize that the people of Louisiana are extremely interested in coastal restoration and supportive of the efforts that are ongoing. It is a very salient issue in this area. The organization includes churches, environmental groups, both at the local and national level, civic groups, parish governments and businesses. I am also the Assistant Director of Catholic Social Services for the Diocese of Houma-Thibodaux. I live on Bayou Lafourche. My wife was born and raised on Bayou Little Caillou in Terrebonne Parish where her family still resides. Her father can now fish in waters covering land he farmed as a boy. It is that dramatic. He remembers brothers grazing cattle on Timbalier and Isles Denieres, which could be reached by wagon and a short ferry trip. Those islands were very large and had freshwater. It is now a 30 minute boat ride to those barrier islands which are quickly eroding along with the wetlands behind them. Everyone in this area feels the urgency of the erosion problem because it affects our everyday lives. Particularly after the 1985 hurricane, Juan, with the tremendous amount of water that we had in many homes in the coastal area. People were shocked into an awareness of the problem.

My involvement in the preservation and restoration of Louisiana's coastal wetlands arises primarily from concerns about jobs, homes, lands, recreation and culture.

I will not go into the importance of our wetlands, at both the local and national levels. That has been well attested to. I will, however, add my comments that it is particularly galling to those of us interested in Louisiana's wetlands to see the public outcry and the Congressional reactions to the Yellowstone fires of last summer and the Valdez oil spills of this year, in light of the lack of urgency regarding our own loss of 60 square miles of Louisiana wetlands each year.

We have much more wetlands than any other State and I suspect that if we were closer to Washington we would be crawling with Federal representatives from the EPA, the Soil Conservation Service, the Corps of Engineers, and many other agencies.

Mr. **Nowak**. Just on that point, I just mention that there is a river called the Potomac and I would not be caught dead swimming in it. So that may not hold true, but go ahead. [Laughter.]

Mr. **Gorman**. I would call as everyone else here has, for much greater Federal attention to Louisiana for the two reasons already mentioned that we are a national treasure and the Federal Government helped create the conditions contributing to our losses. I would reiterate as many people have, the need for very prompt Federal action. The Senate Bill 630, Louisiana Wetlands Conservation Restoration Act. We urge immediate passage. We desperately need those Federal funds. We also urge as I said, to make it unanimous the mission of the Corps to be changed. We also suggest greater involvement of the EPA. We urge that in the adoption of no net loss, that it be done on a project-by-project basis. We feel that to build wetlands in the midwest while allowing Louisiana to wash away is a tragic way to achieve no net loss.

The only other thing I would point out is that Louisiana is a training ground for the development of coastal restoration and protection technology. We experience relative sea level rise nine times that of the rest of the coast of the United States, but within 50 years, global warming will bring to Massachusetts, Virginia, Florida, California, Alaska, and New York, the kind of sea level problems linked to coastal Louisiana today. And we could be a training ground for the projects mitigating those effects.

We are blessed with the Mississippi River which no other State and few other countries enjoy. And we urge that that river be used in the restoration of coastal Louisiana. Thank you.

Mr. **Nowak**. Thank you very much, Rob. Let me turn it to our last witness, Ernie Colonna.

Ernie, is this—I just asked the question, just help us out. Is RESTORE, within the Coalition to Restore Coastal Louisiana? And is Interfaith Stewardship an organization within the coalition?

Mr. **Colonna**. To answer your first question, I do not believe RESTORE is within that coalition.

Ms. **Schoeffler**. We are members of it, but we are an entity of our own, but we are a member of the coalition.

Mr. **Nowak**. But, you are a member of the 50 member coalition?

Ms. **Schoeffler**. Yes.

Mr. **Nowak**. Okay. Just so I know. Yes, sir. Mr. Colonna.

Mr. **Colonna**. Thank you. Mr. Chairman, Congressman Hayes, Congressman Nowak, Congressman Tauzin, good afternoon. My name is Ernest Colonna. I appreciate the opportunity to testify here today. Others who would have testified had there been ample notice cannot because they had made prior commitments. One of those is Mr. Michael Tritico, Biologist and President of RESTORE.

He has asked me to read into the record of this hearing the following statement.

RESTORE, is an environmental group formed in 1975, has, since that time, presented testimonies at almost every major coastal zone or wetland hearing which has been held along the northern Gulf Coast. There should be no question about our positions in favor of wetland preservation and sensible management practices in the coastal zone. We were among the first to say things that are now being widely accepted. Although it is heartening to see the slow development of a consensus on such issues, we are disheartened by the lack of development of a process which would allow us all to reach a consensus on obvious realities in some time frame shorter than a decade and a half. Just as certain insights were considered, unsubstantiated, or far out, or in need of further documentation, ten years ago, so are certain topics considered today to be premature or not fully investigated. Therefore, even though our scientific investigators, the eyes of our civilization, have seen far ahead, their voices are not heard until a crisis has become undeniable.

Some of us have been tempted to stop studying, inventing, and speaking, and just let the whole system rapidly self-destruct with the hope that in the long run that would result in less damage to the biosphere. RESTORE has not chosen that path, though, because it is beginning to look even more likely than it did 15 years ago that the biosphere just will not survive unless some drastic and quick remedial actions are implemented. We continue to hope that the forces of greed and contrived ignorance will get out of the way before they take all the living things down to doom with their own arrogant selfishness.

Back in the early and mid-70s, some of us were saying that crisscrossing the coastal zone with channels with cattle walks, with roads or anything else that interrupted the normal gentle sheet flow of waters across the wetlands would lead to faster and faster erosion of those wetlands. We were saying, back as early as hearings in 1973, that the Mississippi River Flood Control levees were not only setting up an eventual human catastrophe by misleading hundreds of thousands of people to settle in dangerously flood-prone lowlands, but that the same flood control system was starving the marshes, pumping turbid, life smothering mud into the coastal waters, and dramatically distorting salinity regimes as far west as the Texas border. We were trying to get people to see an overall picture, physical, chemical, and biological stress that could have only negative impacts across the short and long term. We said what we had to say about those things and there is no point in wasting our time here today going back over the details in those area.

Instead, if anyone cares to listen, we would like to move ahead with some observations that we had just begun to make or had not yet seen back in the early to mid-70s.

One thing we did bring up in some of the early Coastal Zone Management hearings was the fact that relatively slight sea level changes would have relatively large, rapid impacts in broad flat coastal areas such as those we have in Louisiana. We knew that sea level had begun to climb, but we did not know that the climb was accelerated by a man made heating of the atmosphere and the consequent swelling of ocean waters. We were somewhat surprised to hear, in the late 70s, that the acceleration in sea level rise was caused by something called the Greenhouse Effect. We were not at all surprised, however, to hear earlier this week, Dr. Hansen, the nation's leading expert on global warming, reveal to another Congressional committee that non-scientists were attempting to blunt his testimony, to give aid and comfort to those whose special interests are not compatible with a widespread public awareness of the truth about the rapidity of and degree of change in the earth's heat budget.

Why do people like Dr. Hansen have to be second guessed and undercut by people who have not bothered to do their own homework? With time running out, let us accept what the best set of eyes see and make our plans accordingly. If we accept Dr. Hansen's reports, and if we tie them into sea level studies such as are done by Dr. James Titus, what is the picture that we can project for impacts upon coastal erosion and any projects that we might try for prevention of that erosion?

What we see is a likelihood of at least two more feet of rise in a sea level across the next fifty years, perhaps four or five, and perhaps as much as twelve feet within a hundred years.

Can that rise be stopped or even slowed down significantly? If we take some drastic measures soon, yes, perhaps we can bring things back under control sometime within the next couple of hundred years or so. Even if we started doing everything that can be done right away, it might take 50 or 100 years to see the beginning of the turn around. So, it looks like we are facing at least a three or four foot rise in sea level, no matter what. Is that a significant factor which should be considered in any planning for the effects of coastal erosion and any thoughts of coastal restoration? RESTORE thinks that it must be a primary consideration.

For example, think of one of the effects of coast erosion, the loss of hurricane storm surge buffer zones. Since we are going to lose all land at elevation two to three feet above sea level, we are going to lose 30 miles of buffer zone. Why should anyone waste time, effort, and tax dollars on projects that will be inevitably be washed away? More importantly than those wastes will be the wastes in human life that will occur unless our coastal planning efforts face the truth. Perhaps that principle will be made clear to everyone when New Orleans, already below sea level, is suddenly washed away.

Notice that the word used was when, not if. Michael Tritico was not the first to say it that way. The engineer LaTour said it that way in the 1700s, as have others who would not let themselves be blinded by the shortsighted greed and gutlessness. Michael Tritico has been the first to say that, when New Orleans is lost, it must not be rebuilt south of Lake Pontchartrain. Why should taxpayers who have good sense keep picking up the tab for people who live where humans were not meant to settle? Yes, it is tragic when hundreds of people drown in a hurricane, but would we not be doing the best for those people if we get them out of harm's way in advance, rather than reinforcing some false hopes that will leave them there to draw in even more victims?

By taking into account the global warming and swelling of the sea, and the fact that millions of people today live in areas where their drowning cannot be prevented, we should be able to discern that the top priority of coastal planning would have to be relocation of human resources to high ground. That has to be a higher priority than to waste efforts trying to make a dike, then pump it out from behind, then stick a finger in it here and there and on every coastline in America.

Let the sea do what it is going to do anyway. Let it encroach upon the rice fields and let them become the new Spartina marshes, sustaining our fisheries, furs, and the other things that made Louisiana's old way of life a renewable resource based way of life. Let the old Pleistocene ridges become the new chenier ridges. Stop trying to buy out nature because it cannot be done.

Let the Calcasieu River revert back to its meandering ways. Remove the jetties and let the Gulf and the River together reestablish the hemispherical sand bar at Calcasieu Pass thereby giving us back the natural mechanism for prevention of saltwater intrusion. By removing the jetties you will also remove the force which created the gyral which has been chewing up the West Cameron Parish beaches and the coastal highway. But what about the shipping industry, and all those big petrochemical tankers that have to get in and out of the Lake Charles area? You say. Let them take advantage of the LASH, lighter aboard ship, technique that has been proved practical in other parts of the world. Why should we have to subsidize with rapidly and completely lost wetlands and fisheries, industries which do have alternatives that would cost them so little? They could more than make up having to pay their own way, anyway, especially if they would once wise up and participate in our society on a fair basis, rather than by spreading the cost around, to those of us who have no voice in their management decisions. Once those industries realize that they will have to pay what are now hidden costs that we pay for them, you can bet that all their enterprises will become more streamlined and efficient. That will help them as much as it will help us.

There are many things to consider when planning coastal expenditures. A high priority would have to be the timely relocation of hazardous wastes which have been and are still being landfilled in the wetland area. Take, for example, the massive tombs being built just south of Carlyss, just north of the Intracoastal Waterway. At a 1989 ground surface elevation of five feet above sea level, tombs exist and are being built which go down 30 feet below sea level and rise up another 30 feet and which are hundreds of feet long. Those are huge bundles of extremely toxic, non-biodegradable wastes, just waiting to be scoured away by the next storm surge across the area. The National Hurricane Center in Miami has computerized projections showing a surge of 28 feet above sea level crossing the tombs under certain storm conditions, such as if a storm like Gilbert comes in a Johnson Bayou. In Calcasieu Parish alone we have in addition to that hazardous waste site, at least four other ones at elevations less that 10 feet above present sea level.

Does RESTORE object to spending any money whatsoever on things such as surfzone baffles, giant blocks for diversion of currents, bulkheads, selectively placed rip-rap, etc.? We do not object to such projects when they can be shown to be both, one, vital for the protection of critical public facilities and two, likely to work for a long enough period of time to allow, a, relocation of the protected facilities to safely high ground, or b, the development of an alternate means of providing the critical public service required.

Two examples of facilities which should probably receive some assistance in forestalling oceanic encroachment are the Key West Naval Air Station and the Strategic Petroleum Reserve at Hackberry.

Gentlemen, had we been given reasonable advance notification of this hearing, or had it not been scheduled at exactly the same time as was another important hearing, on the poisoning of Willow Springs, here in Calcasieu Parish for which we were also given only four days notice, the RESTORE testimony could have been more adequately organized. We might have said many other things in the same amount of time, with more clarity. All we can do is hope that we did get some points across and that you will see what can be seen. Thank you for at least starting to try. Mike Tritico, biologist.

Mr. NOWAK. Thank you very much for going through that statement. I might just mention again, I mean, that we will keep this record open for any detail that Mr. Tritico would like to present in addition to what you brought over today, or any comments that you may have wanted to make because of sitting here for the last four or five hours. We will incorporate all that into the record.

And this Greenhouse Effect that you mention in the paper, I was particularly impressed when I was out on that helicopter today, looking at the road and I forget, what is the highway?

Mr. HAYES. Eighty-two?

Mr. NOWAK. Eighty-two. Highway 82, and also the, it was almost gone but there was no wind today and you still had of course the wave action going right to the bottom of the road it looked like. Especially from the vantage of a helicopter. But even more I think harmful than that, they let somebody build a bunch of houses right down the road, which look right on the beach and the roads right behind those houses. And that seems to me an imminent kind of stupidity. Somebody is going to have to rebuild those houses very shortly or move them back or build an awful high landfill for those to sit upon. But, all along the area, the intrusion is so close to your land mass and even with the protection done with a levee or other separators, if you will. Just seemed to me very vulnerable and I can understand how 30 to 40 foot of your shoreland can disappear every year. And I would think until the land can be restored and built up higher very quickly, it is going to reach more and more of the what is now known as the wetlands.

We had a somewhat similar problem in the Great Lakes where we had high water in 1986, it was the highest stage of water in the history of the Great Lakes. For some unknown reason it just pushed from 1964 to 1986, where it topped all the other records. And we lost a lot of land through erosion in the Great Lakes, and also of course, homes and other structures that were built into the basin when the water levels were low. And we do not have nearly the changes that are occurring here. But it is still a problem and that Greenhouse Effect that you mentioned seems to be getting greater and greater credible significance over the last couple of years. And it looks like that will indeed be a tremendous factor down here. We also over the last two years, while we had terrific amount of precipitation into the Great Lakes Basin we also had the last two years, drought conditions. And we have removed 28 inches of surface water, and for us that is monumental change. Usually that would take 40 to 60 years before that transfer would take place.

So I do think we are looking at something unusual in the transfers, whether it is the Greenhouse Effect and whether we can start to reverse that just looks like we are going to be laden with that effect for some time so we better look to other things that are more "controllable". At least in the shorter mid-term here and looking at this problem.

When you speak of the amount, and several speakers have talked about, trying to do something with the sediment coming down the Mississippi. In previous papers I have read on this problem, everybody has referred to locks, dams, levees, other man-made structures going up through Iowa and Wisconsin and all the way up Illinois, that the Corps of Engineers or State government or local county has "solved one of their problems". But it seemed that when I read their papers, there is evidence that some large change in the amount of sediment that is coming down the Mississippi may need to be reviewed and whether or not you can save or somehow capture that rich sediment coming down. Today we heard that a lot of that rich sediment is going out into the deeper parts of the Gulf, and I am wondering if that in your mind is not something we should look into both the lack of sediment coming down and then what is coming down. Is that somehow able to be saved?

Mr. TROWBRIDGE. Are you addressing that to me, sir?

Mr. NOWAK. Yes.

Mr. TROWBRIDGE. I think that the directionalizing of the flow of the major rivers to Louisiana would help assist in the building of the coastline. As I mentioned, levee systems such as the Mississippi or the Calcasieu have diverted that material away from the normal flow of the river depositing their load back up on the earth. So the consideration of projects to redirect materials I think it has been done in Holland and other areas of the world where the river, the mouth of the river is turned. Redirectionalize that material to build up beaches to build up land. As we are seeing, it is because it has been diverted from the Atchafalaya and Mississippi Delta regions, the dramatic loss of our coastline.

Mr. NOWAK. I say that because you have, you are probably going to have a difficult time going up to Illinois and changing a dam or structure and ripping it out. But you do have some control over what happens at the end of the system here. And as that water comes down the Mississippi, looking at the older maps, that river seemed to have whipped over almost a 90 degree section coming down as a reign of force moved that water from one century to another century in a different area to build this whole delta up. And I wondered if that is an area we should be looking at, or the Corps should be looking at. It should be part of the wide management plan. I have heard it but I do not know, there is nothing being done. I mean, levees were built here by the State, requested by the State. Rob, is that part of, you know you have sent in a, your coalition published I understand a Restoration Action Plan which the State has adopted to a large degree. Was that part of it or there any thought given to that?

Mr. GORMAN. Very much so, and I will give you a copy of the most recent edition. There has been a paper within the last year by Dr. Paul Toplay, who is now the Secretary of the Department of Environmental Quality, who has studied the sediment load of the river quite extensively and his contention is that even with the locks and dams on the river, there is still enough sediment in the river to build significant marsh.

Mr. NOWAK. Did he ever give a figure or approximation of what has been reduced? How much of that has been reduced?

Mr. GORMAN. Yes. I do not have that, I could certainly get him to mail a copy of that paper to the committee.

Ms. FOSTER. You know, we have also seen at the mouth of the Atchafalaya River and the West Lake Outlet, an immense growth down there, as much as we are losing wetlands we are growing, well, at least down there too, and yes, we definitely have sediment.

Mr. NOWAK. In the other areas, but not in the Mississippi Delta?

Ms. FOSTER. Well, that is part of, the Atchafalaya River comes off the Mississippi.

Mr. NOWAK. That is all one and the same to you?

Mr. GORMAN. The difference is the mouth of the Atchafalaya is not leveed as the mouth of the Mississippi is, and so that silt is deposited much closer to shore and in the marshes.

Mr. NOWAK. I do not know engineering, I wonder if you looked at it, and is there any way that that silt could be removed before it fell out into the deeper rushes of the ocean?

Mr. GORMAN. Absolutely. I mean, that is the whole point of the Engineer Diversion Project.

Mr. TAUZIN. Would the gentlemen, you have to say?

Mr. NOWAK. Yes.

Mr. TAUZIN. One of the problems, Mr. Chairman, is that under current 404 permitting again, when the Corps dredges the Mississippi River for maintenance of the channel and takes all that material, it cannot, when it loads it on barges, use it for marshland management because they cannot get 404 permitting to do so. So instead it dumps it offshore. So we are not only, not rediverting it, but when we do collect it in dredges we must because of the 404 permitting system dump it offshore where it cannot do any good.

Mr. NOWAK. Well, that is certainly one of the Federal questions we should look into. I do not know if that, there is a problem with the sediment that is floating through the system and where that sediment would be picked up. I guess you would have to have a very intensive engineering study on that and see if there was any toxicity or anything else that created a problem. Have you indicated anything, or have you found anything on that?

Mr. TROWBRIDGE. Well, some of the river sampling here at Calcasieu River is showing to be contaminated, particularly upriver, but it is interesting, maybe I can ask a question of Representative Tauzin, are they classifying that dredge material is toxic waste or toxic?

Mr. TAUZIN. No, the problem is that the 404 permit system, is a system that is generally prohibitive as we pointed out earlier, so that if someone wanted to put spoil material anywhere in the wetlands, and that includes marshlands that are being eroded if you wanted to put some down to restore, to rebuild artificially what the rivers would do naturally. The general feeling of the agencies who review those permits is that you cannot do that. And so the Corps does not even put in an application. It simply takes the material and dumps it offshore. As the river is doing naturally. So that when the Corps comes in to dredge the river, when shoals the building up and the ships are grounding, we had some recent groundings this year, they come into to do that dredging you have to take your material out. They cannot use it anywhere in Louisiana. Not because it is toxic, it is just, under the current 404 program, it is the agency general rule that you cannot put spoil in the marshes.

Mr. TROWBRIDGE. Well, Mr. Chairman, the problem I think that is intrinsic with that is, if it goes in toxic it can be expected to come out toxic and I am curious as to why there would be a prohibition of that type of material for marsh development.

One of the interesting things that is happening for solid waste, not to change the subject, but one of the interesting things that is expected to be developed out of solid waste is compost. It is organic in nature, and it has a potential benefit for reclaiming farmland and, I would suspect, coastal areas. It is a direction that this parish in particular is looking at developing a comprehensive solid waste plan, utilizing recycling and compost. And it has a potential marketability of the product. Here again, it has to fulfill certain criteria established by EPA.

Mr. NOWAK. That is right. Those limits are in some areas, they cannot beat them. After the compost thing, a lot of the farming community that expected that composting now will not accept it. But it is again, they are in an innovative industry that we are going to have to take some time looking at because of the tremendous land sighting problems we have for more storage of everything from solid waste to the sludge that is being produced out of our treatment plants, whether it be primary or secondary, around the nation. And that is another problem. But the two in many areas are connected because they are worried about the groundwater being contaminated that they are drinking, even 10, 15 miles away. So you have got a multiplicity of problems, if the compost is good enough, what happens if that compost in combination with something else in the ground gets into a groundwater system that you are drinking? We have 52 percent of the people in the United States depending upon their drinking water out of the ground.

So you know, these things are all interconnected. And you get into RCRA and how you are going to site these things. In New York City, I have got to go up there for a hearing because they are going to be incinerating the sludge. And that, everybody says, is wonderful, except they are going to be in violation of all the air pollution laws, as soon as they start burning that sludge.

Then the Congressman who has got a landfill in his district objects because he does not want the New York sludge coming over into his area. So they are coming to me and they are telling me, well, you do something with the sludge. They put it on a boat, remember? They send it all over Louisiana. But those are real problems and unfortunately we are in a stage here that the technology really has not caught up to the problem. Even the incinerator that is out there now converting your solid waste, even when put next to a user of steam and electricity is just marginally making it when it is in competition with the landfill site. And the large corporations who put those in are still operating, but again they are marginal because they cannot produce enough with the present technology. But somebody tomorrow will have come up with a little better treatment system and that will carry them ahead for a while. And I guess they will blame me for all the time in that particular area.

Mr. TROWBRIDGE. Well, that is one of the problems. They are trying to perfect destruction of resources when they should be trying to perfect a system of recovering resources.

Mr. NOWAK. Or preventing.

Mr. TROWBRIDGE. Preventing, yes. Do not make it in the first place.

Mr. NOWAK. Which would be the third set, right?

Mr. TROWBRIDGE. Correct.

Mr. NOWAK. Why make plastic bags, paper bags? Why not make a plastic bag out of rice or corn that is biodegradable?

Mr. TROWBRIDGE. Well, we have ones and they are crafted of paper. The thing is, that which we do produce and accept as viable things in the marketplace should be made to be recyclable. But here again, it goes back to the energy required that creates the Greenhouse Effect, from your first question, the gases, I would hope that the United States Congress would address the commitment to reducing, eliminating the sources of discharge directly attributable to global heating and the Greenhouse, such as carbon monoxide, from garbage incinerators or anything that is burned unnecessarily. Because, I think we are fast coming to reality that there is no free lunch and we all have to become part of the solution.

Mr. NOWAK. Let me turn, because this really, I had someplace written some remarks when, Gerald, you were speaking about this wetlands loss and trying to develop, this law was written and others like it in the Federal Government. What we are finding is the general legislation that we pass and get down into the daily life of somebody does not always address differences that you have and specifics that are out there. That general kind of statute is very difficult to put together, I guess, to affect every one of those specifics beneficially. Then we have got to go back and relook at the regulations, and relook at the intent of law, and relook at what we are doing. You made the statement in your testimony, relating to all wetlands are not the same.

We understand that. And yet when we write it where do we, how can we make the differential and how can we get the differential in the general law so that it is flexible enough so that all the agencies and the state governments who coordinate the plan take in the specifics that are out there. And yet complies with the intent of law, the intent of law as we wrote it.

When you talk about the wetlands are not the same, we are hearing mitigation will suffice now. Then I presented that proposition in a little statement to a group in Washington they said, do not bind mitigation, because you are not going to get the quality mitigation of what you are losing. And you carry that to another, and then you might say, well then we are going to eliminate all mitigation. And yet if you do that you are not going to make any progress.

Mr. VOISIN. Mr. Chairman, I think one of our biggest problems that we have is we have not set a baseline down across this marsh saying, look this was intermediate marsh in 1962. It is now saline marsh. Let us try first of all to set some kind of baseline or some kind of goal say, this is an intermediate marsh in 1962. This is our goal and this is what we want to achieve.

Mr. NOWAK. Does not the state or the Federal agencies that have the authority of when they work with your landowners try to encourage them and then we get that differential now?

Mr. VOISIN. No, because the problem that we have and I can understand, there are fisheries already in it and they would like to see saline marsh all the way to Baton Rouge. That is their goal, is to increase fisheries, because that is where the monetary value is. They use a protein value and they come up with some outrageous figures on the, an acre of marshland. And they do not realize, most of them do not, that it takes a saline, brackish, intermediate type marsh to produce these shellfish. But I have even permits where they required the landowner to increase the salinity in some cases. This is still in doubt.

Mr. NOWAK. Well, let me ask this, how do we get to involve the initial process? Some of your testimony talked about the desire to be included in the initial perhaps writing, commenting on the regs as they are coming out. How can you get involved through the state and the state get involved with the Feds so that these things come out.

Mr. VOISIN. We are on our marshlands and we have been considered the enemy. It is as simple as that. We want to be part of the process. All we are asking is let us come forward and give you the expertise that we have developed. It is not written in studies. Everything has been personal observations over the years, for the last 60 years. Let us share that with you. Let us have part of the permit, the input of the permit process. That is all we ask.

Mr. NOWAK. Well, even working with what is out there today, if we could arrange some meetings, I am sure your two representatives will do this much better than I will, with EPA. At least to have some conversations to see if we can arrive at a system that will permit a process to begin where land that perhaps should be restored can be agreed upon, private property, because we are never going to solve this problem on Federal lands. You are never going to solve, you are never going to have enough to purchase enough of this to ever keep it constant. And I do not know if we should because it seems to me this is going to be a shifting kind of problem. It is not a static problem that once a wetland is created nothing else will ever move into wetland status, miles north or miles south. It is the same mentality somebody talked about putting structures out in the ocean. And building up a structural wall to protect the road and it seems to me it will work for some period of time, but the power that is being generated against that, is first of all destroy that structure one of these days.

Mr. VOISIN. That road has been rebuilt three times so far.

Mr. NOWAK. I understand that.

Mr. VOISIN. And by our homes.

Mr. NOWAK. It is going to happen again. But the structure that is out there is going to force all that energy as far as the studies of the Corps are concerned, to other areas. Maybe a mile, two miles, three miles down the road. So the poor guy that is back far enough two miles on the road is going to start to get, feel that excess energy. And the adjustments to all of that become more and more difficult as we start to try to solve the problems. You know we, I say this whole process is really in a beginning kind of arch that everybody is dealing with here and I hope that we can find a way to accommodate some problems.

Let me turn to Jimmy Hayes.

Mr. HAYES. At the lateness of the hour, I do not want to get into extended questions. One thing that I would like to receive, I am sure that Louisiana Lands has it, I would like if you do have it available a short resume of tax impact. We have had several conversations with the Governor of Louisiana about tax incentives. Getting back to what the Chairman says, if we are going to provide an impetus for private action, then one of the ways that we can do that is with tax treatment. One of the things that we are not familiar enough with instantly and which I would be most appreciative in seeing is the limitations upon your expense deductions to begin with. In other words, the limitations placed upon corporate expenses for direct expenditure, if they had been permitted or could be permitted and the impact that would have on incentive, versus, a system of tax credits. Those kind of comparisons to where we could see what sort of legislative initiative would be the most incentive for a landowner and under what circumstances. Because once again, wetlands are different. Whether there is mineral production, whether there is farming, whether there is fishing, and I am certain that in your experience, because of the vastness of it, you have got over 600 thousand acres. I know that you have had to deal with this and you have had to deal with the impacts of the 1986 Tax Act. So we very much appreciate saying what position it has put you in and taking a look at some of the alternatives that would induce you to spend your money to protect your own property, but in turn as a result of that expense, protect that of others, and coastline and come back to what extent those efforts will make the continuing eroding coast.

And then secondly, your direct experience with permit problems I think has led to some excellent discussion here today, and given an opportunity for a lot of people to get into the record to understand that the permit process is so now tangled that we are not talking about what is right and what is wrong, but more of a frustration of how do you ever get to the end of the trail to even reach a point where that decision is made and to balance the competing interest of different regulatory bodies, who, to put it very bluntly, have more of a turf war on some occasions than they do an honest difference of opinion on what is better management.

Those are the kind of things that I think that we can best legislatively react to as a consequence of these kind of hearings. And I would further urge along the comments that were made by the Chairman, that this is indeed a good manner in which it can be involved and one of the things that I have learned in a short time, and I believe Congressman Tauzin would agree, is that the staff members on committees really do read the things you send. There is a frustration among a lot of people that sure, we prepared it and did it and no one ever saw it. You would be very much dramatically surprised just the opposite. When the effort is made and when it is added to a record, and when you do move toward that, some of the things that are there that are written clearly and that dramatically point to instances of problems duly to improvement, the best witnesses I have ever seen in a committee are people who talk about their personal experience as a microcosm of what is a problem out in a marketplace, or what is a problem with existing legislation. So for that I can assure you that it is indeed a real part and I have seen this year as a result of changes made through testimony, Section 89, is going to be amended because of individual people who went to Washington or field hearings and who said, look, here is what it has done to my company and who are able to directly address members and staff members who did some drafting and who in fact, made their point very clear from their own personal experience.

So I can assure you that the ears are not deaf when a case is made, and no, it is not easy and I am certainly not suggesting that, good, we solved this this afternoon. But I am saying that the issue is a legitimate one, that you have very dramatically forced into discussion and I do in fact, believe that there will be some legislative changes made and the more you can direct us the better you are going to be as recipients of those. And the tax information is very much appreciated.

Mr. VOISIN. We would be happy to furnish that to you.

[Information provided by the Louisiana Land and Exploration Company follows:]

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W. L. BERRY
DIRECTOR OF
ENVIRONMENTAL AFFAIRS
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June 15, 1989

The Honorable Henry S. Nowak
Chairman, Subcommittee on Water Resources
Committee on Public Works & Transportation
Room B-370A
Rayburn House Office Building
Washington, D.C. 20515

Dear Congressman Nowak:

In the question and answer session which followed Mr. G. J. Voisin's testimony at the subcommittee hearing on coastal wetlands issues in Lake Charles, Louisiana on May 12, 1989, Congressman Hayes requested that LL&E provide additional information in two areas: 1) views on tax credits and other financial incentives for wetlands conservation projects & 2) experiences with 404 permitting problems. We are pleased to provide that information.

Under present tax laws, the company can treat as an annual deduction all operating expenses related to wetlands conservation, including maintenance of physical systems, such as water control structures and earthen plugs that are installed to protect our property. The capital cost of such physical systems is depreciated over the useful life of each project. However, additional financial incentives are needed by LL&E and all coastal wetlands owners to encourage acceleration of such work to help protect Louisiana's remaining coastal marshes. For example, as discussed below, LL&E has recently received permits to maintain a number of earthen plugs and water control structures used to preserve our wetlands. Because of the cost involved, the work will be scheduled for completion over a number of years. Financial incentives would allow us to do more work toward protecting the wetlands, and at a faster pace.

Such federal support is logical since these privately held wetlands also serve public needs as nursery grounds and habitat for fish, shrimp and other marine life and sanctuaries for waterfowl, song birds, and fur-bearing and other animals. Further, since over 75 percent of Louisiana's coastal wetlands are privately held, private landowners must be an integral part of all programs designed to preserve these areas of national importance. Incentives should be applicable to preventive maintenance programs, as well as capital projects and research work. For example, we understand the Agricultural Stabilization and Conservation Service funds 50 to 75 percent of certain farmland conservation projects. Comparable support levels for wetlands projects seems appropriate.

As Mr. Voisin stated in his testimony, LL&E is concerned about the present dual state/federal permitting scheme for work conducted in the wetlands which tends to discourage rather than encourage wetlands conservation-type projects. The processes are particularly frustrating, since on both levels different commenting agencies with different agendas insist that permits concentrate on their concerns. This results in excessive time delays to obtain permits and sometimes even in permits with terms the applicant believes will not allow achievement of the intended goals. Example of both situations experienced by LL&E are:

- On March 1, 1988 a pre-application meeting was held with the various interested state and federal agencies on four proposed permits to ***maintain*** a number of ***existing*** earthen plugs and water control structures. (Pre-application meetings are designed ***to speed up*** the permitting process by resolving possible conflicts up front.) The maintenance of these plugs and structures (no new construction is involved) is an integral part of the company program to preserve our wetlands. Formal applications were submitted on March 28, 1988. Nearly a year later (February 8, 1989) Coastal Use Permits were issued by the Louisiana Department of Natural Resources. U.S. Army Corps of Engineers (COE) permits were finally issued in May, 1989 - over 13 months after the applications were filed. Of course, no work could be initiated until ***both*** permits were received. Therefore, LL&E's maintenance program was effectively shut-down for over one year, while our wetlands continued to erode!

  It should also be pointed out that, had the COE incorporated proposed restrictions and reductions in the scope of the permits recommended by the Environmental Protection Agency and National Marine Fisheries Service, they would have been effectively worthless. Basically, no maintenance work would be allowed.

- On December 24, 1986 LL&E filed for a permit to repair a man-made gap in a natural levee on Bayou DuLarge in Terrebonne Parish. Both the Environmental Protection Agency and National Marine Fisheries Service insisted that an open culvert be placed in the plug to provide ingress and egress opportunities for marine organisms - even though before the unnatural cut was made there were no such opportunities. As this would defeat the purpose of the plug, the permit was rejected by the company. The gap remains open today and the wetlands continue to deteriorate. Incidentally, the processing of this rejected permit for one small earthen plug took nearly eight months and considerable effort on the part of many individuals in the various state & federal agencies and LL&E.

LL&E recommends that the dual permitting process be eliminated and streamlined. Further, whichever level, state or federal, ends up with the permitting function should use one umbrella agency to administer a comprehensive wetlands program. However, this agency should not be just another competing group added to the system.

Similar problems (i.e. both time delays and agency recommendations that would defeat the purpose of the proposal) are encountered in obtaining approval of Marsh Management Plans - even though such plans are well thought out, systematic approaches to provide the best means of protecting discrete wetlands areas within the same hydrologic regime. Further, LL&E has entered into an agreement with an agency of the United States Government, the U.S. Department of Agriculture Soil Conservation Service (SCS), to prepare such plans for the company. Even these plans designed by SCS encounter the same bureaucratic roadblocks and expensive time delays in the approval process!

To date, three Marsh Management Plans encompassing approximately 20,000 acres have been approved. A capsule history of each is as follows:

- ***DES ALLEMANDS MARSH MANAGEMENT PLAN.***
  An agreement with SCS to prepare the 10,182 acre Des Allemands plan in St. Charles Parish was executed on January 19, 1982. The plan was completed on September 1, 1982 and permit applications filed on April 23, 1984. The Louisiana Coastal Use Permit was issued on October 8, 1985 and the COE permit dated November 4, 1985. Thus, plan approval required 18 months.

- ***EAST GOLDEN MEADOW MARSH MANAGEMENT PLAN.***
  The Lafourche Parish East Golden Meadow plan which encompasses 6,666 acres was initiated by agreement with SCS dated May 18, 1982. The plan was finalized on March 10, 1983 and permits applied for on December 8, 1983. Over 19 months later the COE permit was issued on July 31, 1985. The Louisiana permit was dated June 17, 1985.

- ***LAFOURCHE REALITY MARSH MANAGEMENT PLAN.***
  Permit applications for the 3,000 acres Lafourche Realty plan in Lafourche Parish were filed in April, 1984. As this was basically an extension of a plan application filed by the adjacent landowner considerably earlier, approval was received in approximately six months (COE permit issued October 19, 1984).

A further complication concerning these three projects (which is generally applicable to all Marsh Management Plans) is the fact that the Corps of Engineers issued the permits for a three year period and Louisiana for five years. While the Corps will extend the federal permits, the state will not. The entire long complicated procedure originally required to obtain a permit from Louisiana must be repeated for renewal. And there is a distinct possibility that the permit terms might be changed or the permit denied the second time around!

LL&E has one other Marsh Management Plan in the permit application review process. It is the 3838 acre Little Lake project in Jefferson Parish. The original agreement with SCS to prepare the plan was signed on January 17, 1986. The plan was completed in April, 1986. A series of informal meetings were held with regulatory agencies and suggested modifications incorporated. The formal applications were submitted on March 18, 1987. An on-site inspection trip for regulatory agency personnel was conducted on May 8, 1987. Subsequent to this trip, further plan additional modifications were recommended by the agencies. A revised plan incorporating these suggestions was submitted on March 24, 1988.

One year later, on March 24, 1989, the company was advised that an additional housekeeping modification was necessary before the permit could be considered. Maintenance of water control structures must be removed since they are also included in the general maintenance permits which the company has recently received, as discussed above (agencies apparently cannot issue two permits for the same work). This will be done in the near future. Then the applications will be re-filed and the complete public notice and review process will be triggered once more, with undoubtedly more objections and delays. ***Three and one-half years*** have already elapsed since the project was first initiated. Meanwhile, the wetlands that the plan is designed to protect continue to deteriorate.

LL&E has 18 completed additional Marsh Management Plans encompassing nearly 112,000 acres that were prepared by SCS and which are ready to be permitted (see listing on attached table). Implementation of all of these plans would aid in preserving our disappearing wetlands. However, the company believes that under the existing political and regulatory climate it would be virtually impossible to obtain permits, as illustrated above. Therefore, it is unfortunate, but because of this situation beyond our control, we are not actively pursuing the matter and do not plan to do so until the situation is rectified.

The Honorable Henry S. Nowak
June 14, 1989
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I hope that the above will be of value to the Subcommittee as it works toward answers to help resolve one of the most critical problems facing our nation today - the loss of Louisiana wetlands. Please advise if LL&E can be of further assistance.

Yours very truly,

W. L. Berry
W. L. Berry

WLB:kao

Enclosure

cc: w/Enclosure
Horace J. Austin, State Conservationist - Soil Conservation Service
The Honorable Bernard J. Bagert
The Honorable Bruce M. Bolin
The Honorable John B. Breaux
Manny Fernandez, Chairman - Governor's Coastal Restoration Policy Committee
Colonel Richard V. Gorski, District Engineer - U.S. Army Corps of Engineers
The Honorable James A. Hayes
Dr. Raymond W. Stephens, Secretary - LA Department of Natural Resources
The Honorable W. J. Tauzin

THE LOUISIANA LAND AND EXPLORATION COMPANY
Marsh Management Plans

NAME OF PLAN (AREA)	PARISH	ACREAGE
Completed and Permitted (3):		
East Golden Meadow	Lafourche	6,666
Lafourche Realty	Lafourche	3,000
Des Allemands	St. Charles	10,182
SUBTOTAL:		19,848
Completed and in Permit Process(1):		
Little Lake Area	Jefferson	3,838
Completed (18):		
Bay Dogris	Jefferson	5,710
Bay Dogris East	Jefferson	1,385
Bayou Maurice	Jefferson	3,677
Lafitte Pen Area	Jefferson	412
Little Lake West	Jefferson	2,320
Tom Smith-Dupre Cut	Jefferson	6,781
Bayou Ferblanc	Lafourche	6,740
East Leeville (J.Brady-City of N.O.)	Lafourche	7,103
Glynn Plaisance	Lafourche	6,624
Ricky & Louis Cheramie-LL&E-City of N.O.	Lafourche	5,300
West Golden Meadow	Lafourche	5,181
Couba Island	St. Charles	3,950
Bateman Island	St. Mary	1,095
Carrion Crow Hunting Grounds	Terrebonne	12,764
Four League Bay	Terrebonne	9,534
Lake Mechant Area	Terrebonne	18,250
LL&E-Mahler, Inc.	Terrebonne	8,521
Lost Lake	Terrebonne	6,419
SUBTOTAL:		111,766
TOTAL		159,138

Mr. **Hayes**. And I want to make one short comment, Newman. I want to thank you for appearing and I see that Mr. Tauzin's third district is pretty well stacked this panel. I have got to be a bit more careful next time when I invite him. I do want to add one thing before closing. I was contacted by Michael Lyons, the Executive Vice President of Louisiana Division of Mid-Continent Oil and Gas. He had sought to appear here and because the constraints of time and I apologize to anyone who sought to appear. We had 15 witnesses and that is a rather remarkable feat as you can tell by the lateness of the hour. Certainly no one was at any time not considered and we certainly will include anything in the record. The record is still open for any people who wish to add anything to this record and the time constraints are, I am afraid, a matter of life that have to be dealt with. But I am going to add his statement which he sent to me to the record here and thank him for his participation in that manner and hope that we have a future opportunity to have that directly. Mr. Chairman, thank you.

[The statement referred to follows:]

TESTIMONY OF R. MICHAEL LYONS, EXECUTIVE VICE PRESIDENT, LOUISIANA DIVISION MID-CONTINENT OIL AND GAS ASSOCIATION

GOOD AFTERNOON, MY NAME IS MICHAEL LYONS AND I AM EXECUTIVE VICE-PRESIDENT OF THE LOUISIANA DIVISION OF MID-CONTINENT OIL AND GAS ASSOCIATION. MID-CONTINENT IS PLEASED TO BE A PART OF THIS HEARING THIS AFTERNOON. WELCOME TO LOUISIANA.

LOUISIANA MID-CONTINENT IS A TRADE ASSOCIATION REPRESENTING INDIVIDUALS AND COMPANIES WHO PRODUCE, TRANSPORT, REFINE AND MARKET OVER 90% OF THE OIL AND NATURAL GAS PRODUCED IN OR TRANSPORTED THROUGH LOUISIANA. THE ASSOCIATION HAS REPRESENTED THE LOUISIANA OIL AND GAS INDUSTRY SINCE 1919.

* * *

YOU ARE ADDRESSING THIS AFTERNOON AN ISSUE OF PARAMOUNT IMPORTANCE HERE IN LOUISIANA AND TO THIS NATION: THE LOSS OF SOME 35 SQUARE MILES OF COASTAL WETLANDS ANNUALLY. THE MAGNITUDE OF THE LOSS IS SHOCKING; ALMOST UNBELIEVABLE. WE ARE LOSING THE ESTUARY OF ONE OF THIS COUNTRY'S GREATEST FISHERIES.

IN ADDITION TO BEING A GREAT FISHERIES RESOURCE, LOUISIANA'S WETLANDS PROVIDE PRIME HABITAT FOR DUCKS, GEESE, SONG BIRDS, FUR-BEARING ANIMALS, DEER AND MANY OTHER GAME AND COMMERCIAL SPECIES. THE AREA INCLUDES SOME OF AMERICA'S RICHEST FARMLAND. IT, ALONG WITH THE LOUISIANA OCS, ALSO

PRODUCES 14 PERCENT OF AMERICA'S OIL AND 25 PERCENT OF THIS NATION'S NATURAL GAS. LOUISIANA RANKS NO. 2 IN U.S. OIL PRODUCTION AND NO. 3 IN GAS PRODUCTION. IT IS AMERICA'S OLDEST AND GREATEST PRODUCER OF OFFSHORE OIL AND GAS. OFFSHORE LOUISIANA HAS PRODUCED SOME $54 BILLION FOR THE U.S. TREASURY SINCE 1953 WHEN THE FIRST OCS PRODUCTION IN THE U.S. WENT ONSTREAM OFF LOUISIANA'S COAST. OF 11,440 OFFSHORE OCS OIL AND GAS WELLS, 10,500 ARE OFFSHORE LOUISIANA (THAT'S 92 PERCENT!) THIS IS OBVIOUSLY AN AREA OF MULTIPLE AND GREAT NATURAL RESOURCES. THERE IS NOTHING LIKE IT ANYWHERE ELSE IN AMERICA.

* * *

BEFORE WE DISCUSS SOLUTIONS TO LOUISIANA'S WETLAND LOSS PROBLEM, WE NEED TO UNDERSTAND THE MANY FACTORS AT WORK WHICH ARE CAUSING THE PROBLEM. WE CAN ALL AGREE ON WHAT THE CAUSES ARE: SUBSIDENCE, SEA LEVEL RISE, THE CYCLICAL NATURE OF THE DELTA BUILDING PROCESS, THE MISSISSIPPI RIVER LEVEE SYSTEM, THE OLD RIVER CONTROL STRUCTURES, NAVIGATIONAL CHANNELS, OIL AND GAS ACCESS CANALS, HURRICANES, BIOLOGICAL FACTORS, CONVERSION TO FARMLAND, URBANIZATION. THESE ARE BUT SOME OF THE MANY AND VARIED CAUSES OF LOUISIANA'S LAND LOSS.

WHAT WE DISAGREE ON IS HOW TO ALLOCATE CAUSATION. HOW MUCH LOSS IS ATTRIBUTABLE TO SUBSIDENCE? HOW MUCH TO SEA LEVEL RISE? ETC. ETC. WE DON'T KNOW AND WE MAY NEVER KNOW.

WE DO KNOW THAT LOUISIANA HAS BEEN LOSING LAND FOR

THOUSANDS OF YEARS. IT'S THE NATURE OF THE DELTAIC PROCESS. ATTACHED IS A MAP OF LOUISIANA'S LAND LOSS OVER THE PAST 7,000 YEARS (FIGURE 1). WE ALSO KNOW THAT WHILE WE HAVE BEEN LOSING LAND IN SOME YEARS OR IN SOME AREAS, WE HAVE BEEN GAINING LAND IN OTHER YEARS (OR OTHER AREAS). OVERALL, THE LAND GAIN HAS OUTNUMBERED THE LAND LOSS.

HISTORICALLY, WE KNOW THAT IN SOME PERIODS LOUISIANA HAS EXPERIENCED NET LAND LOSS - IN OTHERS, LAND GAIN. SCIENTISTS SAY WE ARE NOW IN A NET LOSS CYCLE. MANY, IF NOT MOST SCIENTISTS, SUGGEST THAT LOUISIANA WOULD BE LOSING LAND NOW EVEN IF WE REMOVED ALL HUMAN INFLUENCES. LOUISIANA IS IN A NET LAND LOSS CYCLE.

THAT SAID, IT IS ALSO TRUE THAT MAN HAS AGGRAVATED THIS SITUATION. THE MISSISSIPPI RIVER, GIVEN ITS FREEDOM, WOULD FLOW DOWN THE ATCHAFALAYA RIVER. IF THIS WERE ALLOWED, WE WOULD SEE SIGNIFICANT LAND GAINS. IF WE DESTROYED THE FLOOD PROTECTION LEVEES, WHICH PREVENT OVERBANK FLOODING (AND ITS ATTENDANT SEDIMENT DISTRIBUTION), WE WOULD SEE EVEN GREATER GAINS. EVENTUALLY WE MIGHT EVEN SEE NET LAND GAIN IN COASTAL LOUISIANA AGAIN. WE WOULD CONTINUE TO LOSE LAND (NATURALLY) IN SOME AREAS OF LOUISIANA, BUT LAND CREATION IN THE ATCHAFALAYA BASIN AREA WOULD TO SOME EXTENT OFFSET THIS LOSS.

THESE FORCES OF NATURE ARE GEOLOGIC PROCESSES WHICH MUST BE RECOGNIZED. ANY SOLUTION TO LOUISIANA'S LAND LOSS PROBLEM MUST FIRST INVOLVE MOTHER NATURE HERSELF. WE CANNOT ACHIEVE

NO NET LOSS" OF WETLANDS IN LOUISIANA UNLESS WE DESTROY FLOOD PROTECTION LEVEES AND THE OLD RIVER CONTROL STRUCTURES. WE CAN'T ACHIEVE THE "NO NET LOSS" GOAL UNLESS WE ALLOW MOTHER NATURE TO RETURN UNRESTRICTED TO THOSE NATURAL PROCESSES WHICH CREATED LOUISIANA'S WETLANDS IN THE FIRST PLACE. THIS WOULD OBVIOUSLY BE UNACCEPTABLE FROM A PUBLIC SAFETY STANDPOINT.

IT HAS BEEN SUGGESTED THAT PERHAPS WE SHOULD APPLY THE "NO NET LOSS" STANDARD ONLY TO MAN-INDUCED LOSSES, IN EFFECT NETTING OUT NATURALLY CAUSED LAND LOSS. BUT THIS TOO HAS PROBLEMS. FOR EXAMPLE: WHAT LOSSES ARE ATTRIBUTABLE TO THE DEVELOPMENT ACTIVITY? DIRECT LOSSES ARE SOMEWHAT EASIER TO DEFINE (BUT THERE ARE PROBLEMS EVEN HERE) INDIRECT LOSSES MAY BE (AS WE SAID EARLIER) IMPOSSIBLE TO DEFINE, GIVEN THE MANY FACTORS AT WORK IN SOUTH LOUISIANA. WHAT THEN MUST A DEVELOPER DO? WHAT MUST HE REPLACE - THE ONE ACRE HE ACTUALLY DEVELOPED; THE TWO ACRES SOME SAY WERE INDIRECTLY IMPACTED; THE SIX ACRES SOME SUGGEST MIGHT BE IMPACTED IN THE FUTURE?

THESE ARE SERIOUS PROBLEMS WHICH MUST BE ANSWERED WHEN ON CONTEMPLATES A GOAL OF "NO NET LOSS" OF WETLANDS. THEY COULD VERY WELL RESULT IN A SIGNIFICANT DECREASE IN DEVELOPMENT ACTIVITY IN SOUTH LOUISIANA. MANY PROJECTS, IN OUR BUSINESS, WOULD QUICKLY BECOME UNECONOMICAL GIVEN BURDENSOME ADDITIONAL MITIGATION OBLIGATIONS.

LET ME SAY THIS: THE OIL AND GAS INDUSTRY, AS ONE CAUSE (AMONG MANY) OF WETLAND LOSS IN LOUISIANA, IS VERY INTERESTED IN REDUCING (AND, IF POSSIBLE, ELIMINATING) OIL AND GAS RELATED WETLAND LOSSES. WE CURRENTLY MITIGATE (REDUCE AND OFFSET) OIL AND GAS RELATED DEVELOPMENT IMPACTS. WE DO SO TO THE EXTENT ECONOMICALLY FEASIBLE AND PRACTICAL. WE CANNOT AVOID ALL IMPACTS AND WE CANNOT ECONOMICALLY FULLY MITIGATE IN ALL CASES. WE ARE WILLING TO ACCEPT MITIGATION AS A CONDITION OF DOING BUSINESS HERE. WE HAVE ACCEPTED IT. THE INDUSTRY HAS REDUCED IMPACTS ASSOCIATED WITH ITS WETLAND ACTIVITIES BY OVER 50 PERCENT PER PROJECT SINCE 1980. WE ARE DREDGING LESS CANALS AND WHEN WE DREDGE THE CANALS ARE OF THE LEAST LENGTH FEASIBLE. OIL AND GAS ACCESS CANALS HAVE DROPPED FROM AN AVERAGE OF 1800 FEET IN 1982 TO 500 FEET IN 1988. WE CAN DO MORE AND AS TECHNOLOGY IMPROVES AND BECOMES MORE ECONOMIC WE WILL, BUT WE CANNOT ELIMINATE OR COMPLETELY OFFSET THESE IMPACTS IN EVERY CASE.

* * *

BEFORE CLOSING LET ME SAY THAT OUR INDUSTRY IS NOT WITHOUT ITS PROBLEMS UNDER THE CURRENT LAW. THE PERMIT SYSTEM IS CUMBERSOME AND BURDENSOME. THE RULES ARE UNCLEAR AND UNPREDICTABLE. THERE ARE TOO MAY AGENCIES INVOLVED. SOME OF MY MEMBERS HAVE HAD PERMITS DELAYED FOR YEARS. (THIS IS THE EXCEPTION, NOT THE RULE, BUT SHORTER DELAYS ARE

COMMONPLACE.) MANY IN THE ENERGY INDUSTRY AVOID SOUTH LOUISIANA; IT'S TOO EXPENSIVE, TOO DIFFICULT, AND A REGULATORY NIGHTMARE. THE RULES ARE INCONSISTENTLY APPLIED AND EVER CHANGING. IT'S IMPOSSIBLE FOR SOME TO KEEP UP -- SO, THEY'VE GIVEN UP. WE WELCOME RELIEF IN THIS REGARD.

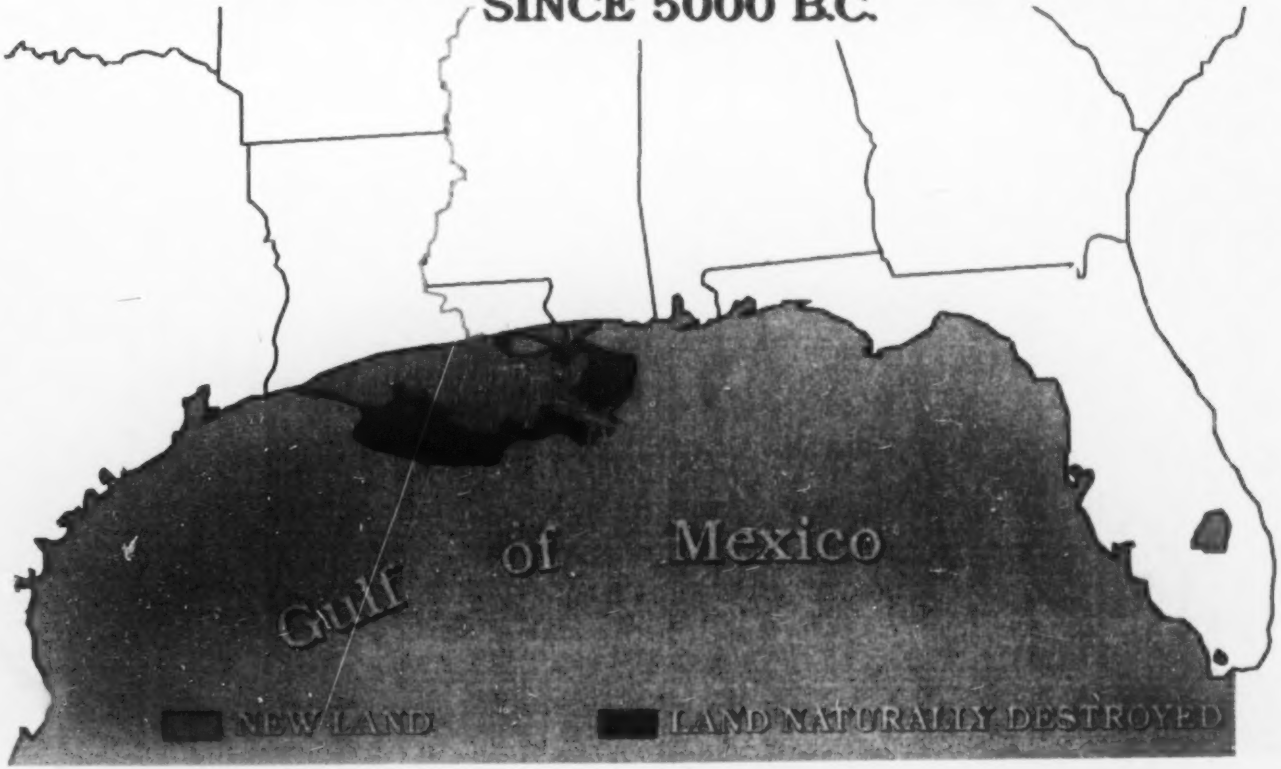
* * *

IN CLOSING, LOUISIANA'S OIL AND GAS INDUSTRY RECOGNIZES THAT WETLAND LOSS IN THE U.S. (AND PARTICULARLY HERE IN LOUISIANA) IS A TREMENDOUS PROBLEM. WE SHOULD DO ALL THAT IS PRACTICAL AND FEASIBLE TO REDUCE THIS TRAGIC LOSS.

WE MUST ALSO RECOGNIZE THAT WE CAN'T, OR SHOULD NOT, ELIMINATE DEVELOPMENT IN WETLAND AREAS. THIS COULD, OF COURSE, RESULT DIRECTLY OR INDIRECTLY FROM GOVERNMENTAL ACTION. THESE AREAS POSSESS MULTIPLE NATURAL RESOURCES OF THE FIRST ORDER. WE REITERATE OUR SUPPORT FOR A MULTIPLE-USE POLICY WHICH RECOGNIZES DEVELOPMENT RIGHTS AND ALLOWS CONTINUED DEVELOPMENT OF ALL RESOURCES IN SOUTH LOUISIANA.

TOTAL LAND ADDED AND NATURALLY DESTROYED

SINCE 5000 B.C.


Gulf of Mexico
▨ NEW LAND
■ LAND NATURALLY DESTROYED

Mr. Nowak. Thank you, Congressman Tauzin.

Mr. Tauzin. Mr. Chairman, first let me say thank you. We are pleased that you brought the committee and the staff to learn with us and what we can begin to do about 85 percent of the nation's wetland losses—in our area.

Jimmy, let me follow up on one of the things you said. First of all, as someone pointed out earlier, we are not going to shelve this from the Federal Government level. Until we give local people some authority, not just to have input but to begin making good decisions locally, about how to save our marshlands and our coast lands, we are not going to solve it. You are right, Mr. Chairman, we write too general a rule in Washington. It does not make sense when it gets applied too often on a local basis, and we need to give flexibility to local authority.

One of the things we are looking at in the new draft we are working on is to encourage mitigation banks. I talked to Manny Fernandez about it on the phone, I think his legislation will include it. Mitigation banks for when you do spend money to save a wetland, or save a marshland, that is going to be lost otherwise, that becomes an asset in the mitigation bank. That is tradeable, saleable, just as in non-attainment areas. You have a saleable asset that you can trade off with others who are acting and working with you in the area of living and developing and saving, if you will, the lands that we live in. We call it home.

In that regard, let me get a little angry right now. It is not stupid for people to live in the coast land of Louisiana.

It is not stupid for us to build our homes along the bayous and along the coastline of this State. It is no more stupid for us to live here than it is for people in California to live on top of the San Andreas Fault. For people to live in Tornado Alley in Kansas. This is home, for God's sake. And if we can save it we ought to save it. We ought to try. I am not ready to leave and pack up and say, let nature do what she wants to Louisiana. Let me stay a bit. I just read your L and E report over here. Twenty thousand years ago, we had a 100 miles of land south of Louisiana's current coastline. The sea dropped 450 feet with the Glacial Age. And it is rising again.

Let me give you some other statistics. I was in Antarctica a couple of years ago. You know what would happen to the ice if Antarctica melted tonight? The sea would rise 187 feet tonight. And let me give you another statistic. It is not just here in Louisiana we like to live along bayous and coast land. By the year 2000, 80 percent of the people in America will live within an hour of the shoreline.

Americans want to live near the water. They want to live near the wonderful resources of coastline and coast lands. And I am not ready to give that up in Louisiana and we ought to put up a good fight. We ought to say in Louisiana, we are ready commit our own resources and yes, we ought demand of the Federal Government some help in doing this. Because in large respect, what we are suffering is a result of Federal decisions. Some that were good for us. I do not want to tear down the levees that protect New Orleans and surrender New Orleans. I think the levees we built are good. But now we need some help in turning some bad decisions we made and maybe some good decisions in saving this land.

Look. There is one problem we have got to face as we leave this area, Mr. Chairman. It is not that we cannot make good decisions. It is not that we cannot separate one wetlands from another. It is not that we cannot come to some good conclusions among all the competing interests in Louisiana. We do not have the authority under Federal law to do it. Nobody can. And we need a new law that grants us authority to come together as friends in Louisiana to make the right decisions for our State. And so, Mr. Chairman, thank you for coming and hearing us and listening to us and seeing visibly what we are experiencing. But what we are experiencing the coast lands of all America are soon going to experience. The sea is rising. All the coast lands of America are going to need some Federal attention, as we need it today. And so, Mr. Chairman, thank you. I hope as a result of these hearings and the hearings we conduct in merchant marine fisheries, we can together produce a package of laws that will give flexibility and some real hope to the people of Louisiana who do not want leave, want to call this home. And we want to give our children a chance to call it home too. God bless you, sir.

Mr. NOWAK. Thank you. And we certainly enjoyed our stay here. We have a long way to go and I do not want to leave here with everyone thinking this is going to be solved next week, even, though I think for the first time that I have been in Congress, we had more interest generated, mainly because of the two gentlemen here and your Senator.

We are coming together in a consensus in Washington to finally do something that can reach out to the States and help them. As it has been said before, solve their own problems, with some Federal help. We have a lot of work to do and certainly this hearing and I think the ability to go and sit and touch a wetland and see the natural resource. And see the kinds of nutrients that are stored in the whole life cycle of the wetlands in Louisiana, will help us a great deal to try to inform and hopefully influence others that this a problem that needs our attention and it is indeed a national problem. So again, thank you for your invitation and this meeting stands adjourned.

[Whereupon the hearing was adjourned at 6:30 p.m.]

[The prepared statements of Mr. Trowbridge, Mr. Voisin, Ms. Schoeffler, Mr. Gorman, and Mr. Colonna (Michael Tritico) follow:]

Testimony
of
NEWMAN TROWBRIDGE, JR.
General Counsel, Louisiana Landowners Association, Inc.

Before the
Subcommittee on Water Resources
of the
House Committee on Public Works and Transportation

Lake Charles, Louisiana, May 12, 1989

Mr. Chairman and Members of the Subcommittee:

My name is Newman Trowbridge, Jr. and I am a resident of Franklin, Louisiana. I am neither a scientist nor a regulator, although I did have the pleasure of serving the State of Louisiana as a member and then Chairman of the Louisiana Coastal Commission prior to its abolition by the Legislature. Rather, I am an attorney, and an attorney who has had the great privilege of representing Louisiana Landowners Association for the past fifteen years. Louisiana Landowners Association's members own over 1.6 million acres of land within Louisiana, much of which is wetland lying both within and without Louisiana's coastal zone. Since I am neither a scientist nor a regulator, I perhaps bring a little different perspective to the discussion of Louisiana's alarming coastal wetland loss and the discussion of possible solutions to reverse those losses, including the development of national and state wetland policies.

I do not intend to repeat the now well known facts concerning the extent of coastal land loss in Louisiana. I will, however, cite to you a few lesser known facts that are extremely pertinent to any discussion of this subject. First, when speaking of coastal wetlands, estimates as to the total amount found in Louisiana range most frequently between 5.1 and 5.5 million acres, or approximately 40% of the coastal wetlands in the United States. Of these, it is estimated that approximately 4.4 million acres are privately owned. Accordingly, it is evident that Louisiana's coastal land loss problem impacts upon no group more than it impacts coastal landowners. For that reason, no group has more interest in resolving the problem. It is absolutely essential that these facts are firmly in mind when discussing development and implementation of wetlands policy.

The causes of coastal wetlands loss in Louisiana are numerous. They are both natural and human. The natural forces of subsidence, sea level rise and erosion are responsible for significant changes in the relative land-water interface. Sinking land and rising water account for major coastal wetland losses. Human activities in the coastal area have also accounted for significant losses.

Among man's activities, it is generally accepted that the construction of levees along the Mississippi are responsible for large wetland losses by confining the river and preventing the annual overflow cycle during which the river would flood the marshes with sediment-laden water. In addition, channelization, oil exploration, as well as agricultural, urban and industrial expansion have contributed to wetland losses.

Several potential methods by which to reverse these losses have been identified. Those methods include diversion of water and sediments from the Mississippi River into the marshes, the creation of new marsh utilizing dredge material from maintenance of navigation channels and other similar sources and the management of high organic soil marshes to prevent erosion by destructive marine tidal processes. The State of Louisiana and the Corps, I understand, are currently involved in studying the economics of these activities. What everyone knows is that the costs associated with pursuing these endeavors on a scale large enough the reverse current losses will run into the hundreds of millions of dollars. A third method identified to address the problem is regulation of development in the wetlands. Perhaps because of costs associated with other measures, perhaps because of a sense of urgency coupled with the fact that it is a feature that can be addressed immediately without additional direct costs, it is the regulatory aspect which is receiving the greatest emphasis.

Most proposed regulatory responses include the adoption of a policy of no net loss of wetlands which would, at a minimum, require full mitigation of all wetland losses associated with development activities and the denial of permits for non-water dependent activities. There are several problems inherent in the application of such policies in a state such as Louisiana in which such vast expanses of land are considered wetland.

Essential to any discussion of wetland policy is an understanding of what constitutes a wetland. All wetlands are not coastal wetlands and all coastal wetlands are not marshlands being washed away by subsidence and erosion. On January 10, 1989, the Department of Army, Fish and Wildlife Service, Environmental Protection Agency and Soil Conservation Service adopted by agreement the new "Federal Manual For Identifying And Delineating Jurisdictional Wetlands", which manual became effective March 20, 1989 and which for the first time adopts a single approach to be utilized by all federal agencies in delineating jurisdictional wetlands pursuant to Section 404 of the Federal Water Pollution

Control Act. While the idea of a unified approach is to be applauded, my reading of the manual, a detailed examination of which is far beyond the scope of this hearing, leads me to the clear conclusion that those lands considered wetlands for regulatory jurisdiction purposes have been greatly expanded. For instance, areas which were wetlands and "disturbed" or "altered" to convert them to other uses may, in many instances, now be considered jurisdictional wetlands subject to dredge and fill permitting requirements. The application of 404 permitting requirements to converted wetlands in a state such as Louisiana could have extensive economic impacts.

Even before the expansion of this jurisdiction, there were many areas of Louisiana located far from the coast which were considered jurisdictional wetlands. The case of Avoyelles Sportsman League, Inc. v. Marsh, decided by the United States Fifth Circuit Court of Appeal in 1983 subjected lands in central Louisiana being cleared for agricultural operations to 404 permitting authority as wetlands; and the matter of Louisiana Wildlife Federation v. York, decided by the Fifth Circuit in 1985, dealt with wetlands in East Carroll Parish in north Louisiana. Similarly, a number of decisions by the Fifth Circuit have involved findings of 404 jurisdiction over development, residential and commercial, in the New Orleans area.

What does this have to do with the subject of this hearing? In my opinion, everything. I would suggest to you that the public perception of what constitutes a wetland is far more limited than that contemplated by the new federal manual and that promoted by many groups such as the National Wetlands Policy Forum. Yet, adoption of a national policy of no net loss of wetlands, unless specifically providing otherwise, will undoubtedly be applied to all wetlands, irrespective of their relative public value or their location.

Over two million people live and work in coastal Louisiana and the region supports approximately 45% of the state's population. Population, employment and land use projections clearly indicate that there is an insufficient supply of available non-wetland sites to accommodate foreseeable future land use needs. There are significantly fewer practicable alternative non-wetland sites in Louisiana than in other states. Considering these facts, the "presumption" of available non-wetland sites for non-water dependent activities provided in EPA's 404(b)(1) Guidelines is essentially illusory.

Furthermore, even assuming that the public consensus for action would support a complete halt to all development activities within coastal wetlands, and the relocation of communities dependent upon those activities for their very survival, Louisiana would continue to suffer staggering wetland losses. While the estimate of the contribution of present day activities to the overall loss varies among the experts, it is clear that those losses are insignificant in relation to the losses caused by subsidence, erosion and the leveeing of the Mississippi River. It is pure folly to think that you can separate wetland loss from management of the Mississippi River. Without management of the Mississippi as an integral part of any plan, all programs will continue to be, as they are now, short term solutions.

Even if virtually unlimited funds were made available to address structural solutions to the problem, such as diversion of sediment and marsh creation programs, in combination with regulatory programs, most of the experts agree that Louisiana's wetlands loss cannot be completely stopped and reversed for the next thirty years, during which time Louisiana will lose anywhere between 500,000 and 1.5 million additional acres of wetlands. These losses are for the most part unavoidable and the implementation, during this time frame, of a no net loss policy in Louisiana would essentially bring to a halt all economic activities in coastal Louisiana. William Reilly, in previous testimony, has agreed that it would be difficult to apply a no net loss standard in Louisiana and have it work.

Having said that, let me also say that it is absolutely imperative that both the Congress and the Louisiana Legislature adopt policies to address Louisiana's devastating coastal wetland losses. Those policies should take cognizance of and make provision for the following:

1. There is a sufficient national interest to justify the expenditure of substantial sums of money by the federal government in the effort to reverse Louisiana's wetland losses. The United States has made a substantial investment in coastal Louisiana. The largest flood control project in the world, the Mississippi River and Tributaries Project, is being built in Louisiana, as well as the largest hurricane protection program in the nation. The terminal

point for the entire Mississippi and Ohio River navigation system lies within Louisiana's coastal marshes. Major portions of these flood control, hurricane protection and navigation projects will be threatened as the marshes that protect them from erosion are lost. If for no other reason, there is a substantial national interest in protecting the investment of the federal government through the expenditure of federal dollars in an effort to reverse these losses. The financial burden of this mission is more than the State of Louisiana alone can bear. The failure of the federal government to lend significant assistance will surely lead to the eventual loss of federal, as well as state, local and private investments in the area.

2. All wetlands are not of equal value. The principle justification for the adoption of a national wetlands' policy is the vital function which wetlands perform. The resource value of all wetlands is not equal and there must be a more realistic evaluation of the value of wetlands proposed for development. Particularly is this true in a state like Louisiana where so much of the state is characterized as wetlands and where alternative sites for development are so few. Where the removal of the wetland through development will not result in a significant adverse impact upon the aquatic ecosystem, permit denial or the imposition of impractical or economically infeasible permit conditions should not be warranted. To aid in this evaluation process, wetlands should be divided into categories depending upon their public benefit value and special planning zones should be recognized in an effort to avoid

unresolvable conflicts by identifying these zones and establishing a systematic planning procedure. Impounded wetland areas, such as those within flood protection levees, are examples of the type of lands to be included in special planning zones.

3. Planning decisions should principally be a state function. Essential to the implementation of any national or state policy with regard to wetlands is the recognition that there will be a continuing requirement for economic and other activities of man. Since these activities will undoubtedly result in some wetland loss, the principle decision making should rest with the state as states are clearly in a better position to evaluate the impacts of any proposed project.

4. Potential public versus private conflicts and takings implications should be avoided. Those lands with the highest public benefit value will obviously be subjected to significant restrictions upon implementation of any proposed no net loss and water dependency standard. To prohibit the use of wetlands for development purposes will effectively deprive the landowner of all beneficial use of the property and raise the issue of a taking. Additionally, as diversion structures and marsh creation programs are put into place, there will undoubtedly be serious questions raised as to the public versus private ownership of the newly created marsh. It is important, in my opinion, to the success of the efforts to reverse the coastal losses in Louisiana that these issues, to the maximum extent possible, be obviated. To this end, wetlands' policies should consider the following:

a) Those wetlands having the highest public benefit value should be considered either for fee acquisition or for the acquisition of surface use easements. The acquisition price should be based not on the traditional market value approach, but rather on the renewable resource value and public benefit value of the lands acquired.

b) Conflicts have already developed in coastal waters with regard to public versus private rights. For the most part, these conflicts have revolved around public claims to rights of passage through privately constructed canals. As public dollars are expended to achieve marsh creation and regeneration through structural measures, these conflicts will undoubtedly exacerbate and will involve not only coastal waterways but also the lands created. In an effort to reduce these conflicts, the establishment of property boundaries as of a specified date by agreement between the state and private owners should be pursued. These agreements would provide public access to all areas subject to the agreements and would reserve to the private owners the ownership of subsurface minerals, irrespective of erosion or accretion. It should be noted that such an agreement would not adversely impact the state's mineral ownership since the state and the federal government have permanently fixed the boundary between state and federal waters.

5. Wetland policies should recognize the value and encourage the participation of the private sector in wetland conservation. Landowners have for some time exhibited a willingness to initiate wetlands management programs on their property in an effort to save

their lands and increase its productivity. These management programs normally entail semi-impoundments or impoundments of water and they have not been without controversy primarily because of their perceived impact on fishery resources and the fact that access is restricted in the vicinity of these projects. As a result, the permitting process with respect to these programs has been difficult, to say the least. While there are others testifying before this Subcommittee who are far more qualified to discuss the details of these programs than I, without question, the value of these programs must be recognized and encouraged by offering landowners tax and other financial incentives to initiate and maintain these management programs.

In conclusion, in view of the increasing loss of coastal wetlands in Louisiana, it is important that the issues surrounding implementation of goals and policies regarding wetlands be scrutinized and a concensus plan implemented at the earliest possible time. However, all of the implications must be carefully considered and the policies implemented to assure that the goals are achieved in a prudent, efficient and equitable manner.

Thank you Mr. Chairman and Members of the Subcommittee for this opportunity to present testimony on this extremely important issue.

TESTIMONY
OF

G. J. Voisin, Manager Houma District
The Louisiana Land & Exploration Company
Houma, Louisiana

Before the
Subcommittee on Water Resources
Committee on Public Works & Transportation
U.S. House of Representatives

May 12, 1989
Lake Charles, Louisiana

Thank you Mr. Chairman. I am Gerald Voisin, Manager of the Houma District for The Louisiana Land and Exploration Company (LL&E). With me is Bill Berry, Director of Environmental Affairs & Safety for the company. I am responsible for managing over 600,000 acres of LL&E's property in Louisiana, which consists mainly of coastal wetlands. LL&E is the largest private owner of such acreage in the nation. We appreciate the opportunity to appear before this Subcommittee today and discuss the loss of Louisiana's precious coastal marshlands.

The company and I are proud of our land. Since the early 1950's, we have recognized wetlands loss as a serious problem and have engaged in a conservation program to protect our property. Measures we have taken and continue to take are detailed in a paper titled "One Company's Experiences with Wetlands Conservation" that is attached to my written testimony.

We are pleased that wetlands loss, which has reached critical proportions, is receiving the national attention it deserves. The Corps of Engineers currently estimates that up to 35 square miles of Louisiana marshlands are disappearing each year -- over 20,000 acres.

Based on our experiences and observations over the years as a large landowner, I would like to share with you some of our perceptions of this serious matter. Hopefully, they will be of value to you in charting a course to save Louisiana's marshes.

First, in October 1988 the National Wetlands Policy Forum released a report containing recommendations for the protection, conservation and enhancement of all wetlands in the United States. The heart of the report is the interim goal: "No overall net loss of wetlands". Since then, the goal has been adopted extensively -- by President Bush, the Environmental Protection Agency, in proposed legislation, etc. It is an admirable goal. However, it is impossible to achieve in Louisiana.

The major cause of wetlands loss in Louisiana is a natural and ongoing geologic process of the building and destruction of marshes coupled with the leveeing of the lower Mississippi River. Because of man-made levees, all the river's sediment is presently channeled into the deep waters of the Gulf of Mexico, where it is lost and builds no new land. In the past, this sediment was discharged across the Mississippi River Delta to form new land. Based on these facts, it is impossible to achieve "no net loss of wetlands" in

Louisiana. One major concern with a "no net loss" policy is that it will be interpreted on a permit-by-permit basis, which will be counter-productive for proposed work in Louisiana's wetlands.

LL&E has prepared a more detailed presentation on the subject, a copy of which is attached to my written testimony. Further, we have also produced a 14 minute wetlands loss video and would be pleased to show it to the Subcommittee, at your pleasure.

Second, most of Louisiana's coastal wetlands are privately owned. We estimate that over 75% of this acreage is in private hands. Yet, landowners are not provided an official role in any planning process, at either the state or federal level, concerning the preservation, restoration, and enhancement of wetlands. This must be changed. Not only is it the future of our land that is at stake, but we do have valuable input that should be considered.

Third, tax and/or other financial incentives should be given to landowners to encourage them to conduct projects to enhance and conserve coastal marshlands. For example, we understand the Agricultural Stabilization and Conservation Service funds 50 to 75 percent of certain farmland conservation projects. Comparable support levels for wetlands conservation seem appropriate, particularly since privately held wetlands also serve public needs as nursery grounds and habitat for fish, shrimp and other marine life and sanctuaries for waterfowl, song birds, and fur-bearing and other animals.

Fourth, the present dual state/federal permitting scheme tends to discourage rather than encourage marshlands conservation projects. The process is particularly frustrating, since on both levels different commenting agencies with different agendas all insist that permits primarily reflect their concerns. Excessive time delays are one result. We have just waited over 14 months to receive permits to simply maintain our erosion control structures. Further, it is not unusual for a final permit to contain conditions so different from the original application that the applicant cannot accept the permit since it will not allow him to achieve his intended goals.

LL&E recommends that the dual permitting process be eliminated and streamlined. Also, whichever level, state or federal, ends up with the permitting function should use one umbrella agency to administer a comprehensive wetlands program. However, this agency should not be just another competing group added to the system.

Fifth, the existing dual permitting process is even more frustrating in attempting to permit Marsh Management Plans, particularly in light of the negative connotation of the term "Marsh Management". LL&E has a number of these plans that have been prepared by the Soil Conservation Service and are ready to be permitted. Implementation would aid in conserving our deteriorating wetlands. However, under the existing political and regulatory climate, it would be virtually impossible to obtain permits. Therefore, we are not actively pursuing the matter and do not plan to do so until the situation is rectified.

Finally, LL&E recommends that key federal agencies make wetlands matters priority issues, including adequate funding. For example, the U.S. Army Corps of Engineers should put marshlands protection on an equal basis with flood control and navigation.

I am also attaching to my written testimony two letters we have recently written that provide additional information on our views of Louisiana's wetlands situation. One is addressed to Mr. Manny Fernandez and dated January 4, 1989. The other is to State Senator Ben Bagert, Jr. dated March 13, 1989.

I hope these comments will be of value to you and all parties interested in conserving Louisiana's remaining precious wetlands heritage. The Louisiana Land & Exploration Company is dedicated to working toward that common goal.

SARAH SCHOEFFLER
3500 E. Simcoe
Lafayette, La 70501

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LOUISIANA COASTAL WETLANDS INTERFAITH STEWARDSHIP PLAN

Our organization began as a result of the passage of a resolution by the Louisiana Catholic Conference of Bishops and the Louisiana Annual Conference of the United Methodist Church, (copies attached hereto) calling the people of their respective churches to accept the stewardship of our natural resources, and more particularly the stewardship of our coastal wetlands. In response to the passage of these resolutions a group of concerned people of these churches came together to see how they might implement the call to stewardship of the earth's resources, and more particularly, the coastal wetlands here in Louisiana. This group of people researched and examined the problem and came to realize that Louisiana was losing coastal wetlands at an alarming rate, approximately 50 square miles per year. The wetlands are a very valuable resource, not only for Louisiana but for the entire nation. The wetlands are important not only ecologically and aesthetically, but are very valuable economically as well. We have attached a fact sheet setting forth certain figures showing the value of the wetlands to Louisiana and the nation. Not only are animals and plants threatened by the loss of wetlands but the homes, jobs and lifestyles of the people of southern Louisiana are endangered.

A steering committee was formed and decided to take an interfaith approach in order to reach out to all peoples of all faiths concerned with this problem. It was clear from the beginning that there was an enormous need to educate the people of Louisiana about the tremendous value of the wetlands and the fact that the wetlands were disappearing rapidly. The problems of the wetlands are not readily visible because the causes of the destruction of the wetlands are slow acting and insidious. If something was to be done about the problems, we felt that the people had to be informed not only about the problems but also that there were solutions to the problems. Then, and only then, would the people become concerned enough about the problem to take action to ensure that their elected representatives in the state government, as well as in Washington, D.C., would take some action to protect and restore our wetlands.

In order to undertake our task of educating the people, we decided to host public forums in which we brought concerned citizens, public officials, and technical and scientific people together. These forums were designed not only to educate the people about the serious problems facing the wetlands, but also to have the public officials and technical and scientific community listen to the needs and concerns of the people who lived and worked in the wetlands and were acutely aware of the existing problems. The technical and scientific people attending our forums and advising our group made us aware that no agreement existed as to which solutions were best to solve the various problems of the wetlands. They all agreed, however, that the destruction of the wetlands was a very serious and urgent problem and that we had to begin to implement some solutions immediately if we were ever going prevent further loss and restore the damaged wetlands to their natural, healthy state.

Our forums were held in Lafayette, Lake Charles, New Iberia, Houma, Baton Rouge, Metairie, New Orleans and Shreveport. A total of approximately 800-900 people attended our forums. Those attending were very concerned about the problems of the wetlands and were willing to actively participate. We informed them of ways to make their elected public officials aware of their concerns and urged them to get involved. As a result of our forums we presently maintain a mailing list of approximately 1500 people with whom we stay in contact by the publication of a newsletter.

While the forums were being held we became aware of the need to reach out to different groups of people. We have sent representatives to speak to school and university classes and organizations, civic groups, and our respective churches to inform people of the serious and urgent problems in the wetlands. We hope that after people are informed they would take steps to convince state and national governments that the people of Louisiana are very concerned with the problem and they want solutions found and implemented now.

We began phase 2 of our plan by dividing coastal Louisiana into geographical basins and proceeding basin by basin into the churches and communities. We have spoken to various church groups in each basin and have held leadership conferences informing leaders of the various church communities of the problems. Our membership continues to grow as we reach more and more people through our churches and through our educational efforts.

Our group came together in order to find ways to implement the call of our churches to accept personal stewardship for the wise use of this earth and its resources. We feel that it is our task to educate and inform people of the problems facing the wetlands, the grave consequences of the failure to halt the destruction of the wetlands, and to provide direction regarding alternatives and options in influencing the local, state and federal governments in order to resolve these problems. We hope to make people aware of their personal responsibility for the wetlands and all of the earth as God's creation. It is imperative that people realize that in addition to seeking to influence the various governments, each individual must examine his or her own behavior to determine if they are acting as good stewards of God's creation. We will continue our efforts to inform and educate.

We find that it is very difficult to get people to look beyond their own short term self-interests in order to look at the long term solutions to these problems. Unfortunately, in our society today, you encounter greed as the primary motivating factor for doing business. This one factor is a very large obstacle in arriving at a consensus in implementing solutions to the serious problems of the wetlands.

We were also very disturbed at the very devisive political infighting and turf protection not only within state and federal governments, but also between state agencies and federal government. We believe that there is no true unified effort coming out of our local, state and national governments to solve these problems. Without this unified effort we fear that any efforts taken to protect, preserve and restore our coastal wetlands will fail.

We also recognize that the State of Louisiana is in the midst of severe economic problems and this, too, is a great obstacle to any efforts to protect, preserve, and restore the wetlands. Because of the severe financial condition of our state, money has not been forthcoming in adequate amounts to address the problems that we have set forth. We are aware that immediate needs take priority over concerns that appear long term, but in reality are not. The state and federal governments must realize that this is a very severe problem that must be addressed immediately. The longer implementation of solutions to the problem are delayed the more land Louisiana will lose forever.

We are, however, encouraged by the initial steps that have been taken by the state government. We believe that our elected officials in Baton Rouge are now very aware of the value of the wetlands and of the problems of the destruction of the wetlands. We are encouraged by the formation by the Governor's office of a position to oversee the various state coastal and wetland restoration efforts which is presently headed by Mr. David Soileau. We hope to see that office adequately funded and staffed. We would urge that this office be given true and clear authority to propose solutions and to implement those solutions by coordinating the various state agencies involved. We would also like to see the addition of many more technical people who are knowledgeable about the problems in this area and who are committed to arriving at and implementing solutions. We would also like to see some consistency be brought to the issuance of permits by the various state and federal agencies for operating in the wetlands.

The federal government has a very strong role to play in the protection, preservation and restoration of our wetlands. The mission of the Corps of Engineers needs to be changed to include the preservation, protection and restoration of wetlands. The cost benefit formula now employed to evaluate federal projects should not be applied to projects designed to protect, preserve and restore the wetlands. The federal government should adopt as official policy that there shall be no net loss of wetlands in the

United States. We believe that we must cut through the bureaucratic red tape because the problems are so severe and urgent, that if something is not done immediately the results will be catastrophic. We have enough information to begin implementing solutions. Enough studies have been done, it is now time to begin actual projects to solve the problems. We would hope that the federal government recognizes that the coastal erosion and the loss of wetlands is a problem not only in Louisiana, but throughout the entire United States as well. We would hope that the federal government recognizes that some of the causes of the severe wetland loss were created by the federal government and, therefore, they bear some responsibility for the solutions. We understand that many of these projects were well intentioned and well meaning, however, there is no denying that these projects, such as flood control and the maintenance of navigation, have contributed significantly to our problems here in Louisiana.

In closing, we are encouraged by the fact that this hearing is now taking place. We feel we have begun to be heard and that people are realizing the severity and urgency of this problem. Although, today we have addressed the problems here in Louisiana, these are problems that affect the entire nation.

We wish to be part of the solution and we commend this committee for these hearings. We would request that we be placed on the committee's mailing lists and we will continue in our efforts to educate and inform the people.

Our expectation is that as a result of this hearing action will be taken to begin solving these problems in 1989 and not five or ten years from now. We would hope and expect concrete actions in the form of projects to begin to resolve this tragic loss of Louisiana wetlands. The state has an extensive list of programs which it would like to implement now to begin attacking these problems. We would hope that the means and the money to implement these programs would be forthcoming immediately. To do otherwise is to condemn Louisiana to a slow and painful death as the most productive ecological system in the United States, along with jobs, homes, businesses, and the state's infrastructure slowly erode away and are lost forever.

FEB 23 1987

LOUISIANA CATHOLIC CONFERENCE

PROPOSED RESOLUTION:#87-A(87-26) DATE: 2-17-87

TITLE:Coastal Restoration

SPONSOR:LCC Catholic Charities/Social Concerns Committe

WHEREAS Louisiana's coastal zone, containing 40 percent of this country's coastal wetlands, is a premier national geological, biological, economic and cultural treasure and,

WHEREAS the coastal zone wetlands are now eroding at a rate exceeding 50 square miles a year and

WHEREAS this loss is accelerating at such a rate that the present coastal zone may disappear within 50 years and

WHEREAS the loss of our wetlands will damage tourism and destroy our seafood and trapping industries upon which so many people rely for a living and

WHEREAS our South Louisiana cultures-customs, lifestyles and recreation- are intimately linked to the environment and

WHEREAS the loss of the marsh will expose our lives and property to harm from storms and floods and

WHEREAS there is growing consensus that coastal protection and even restoration is possible through such things as freshwater and sediment diversion, restoration of the barrier islands, backfilling of canals and restriction of new canal construction and

WHEREAS the enormous cost of such projects pales in comparison to the cost of the loss of our wetlands and

WHEREAS the United States Bishops and the Bishops of Louisiana clearly teach that stewardship of our natural resources is a moral obligation

BE IT RESOLVED THAT the Louisiana Catholic Conference of Bishops urge the people of Louisiana, particularly those in coastal parishes, to recognize our moral responsibility to learn about coastal restoration efforts, and to support groups active in protecting our wetlands.

JUNE 1987

RESOLUTION ON COASTAL RESTORATION AND PROTECTION IN LOUISIANA

WHEREAS Louisiana's coastal zone, containing 40 percent of this country's coastal wetlands, is premier national geological, biological, economic and cultural treasure and

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WHEREAS the enormous cost of such projects pales in comparison to the cost of the loss of our wetlands and

WHEREAS the Social Principles of the United Methodist Church and the General Conference Resolution on Environmental Stewardship (1984) clearly state that stewardship of our natural resources is a fundamental responsibility of Christian discipleship,

BE IT RESOLVED THAT the Louisiana Annual Conference of The United Methodist Church urges the people of Louisiana, particularly those in coastal parishes, to accept personal responsibility for environmental stewardship, to recognize our moral responsibility to learn about coastal restoration efforts, to support groups active in protecting our wetlands, and to elect public officials who are committed to responsible environmental stewardship.

Submitted by:
Tim Lawson
4734 Knight Drive
New Orleans, LA 70127

Contact person:
Sarah Schoeffler
3502 E. Simcoe
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That the Board of Church and Society of Louisiana Annual Conference organize and/or participate in hearings concerning solutions to coastal and wetlands erosion and restoration.

That the Board of Church and Society and the legislative liason committee (Conference Council on Ministries) advocate for federal and state parish funding for coastal nd wetlands program

And That the Board of Church and Society callaborate with the Louisiana Intarchurch Conference in promoting that resolution.

PUBLIC FORUM - Nov. 5th, 7:00 p.m. at First United Methodist Church, Lafayette

BASIC FACTS ABOUT LOUISIANA'S COASTAL MARSHLANDS

by

Peter Hawxhurst

Importance to State and Nation

Louisiana's coastal marshes encompass 40 percent of the continental United States coastal marshlands. The marshes productivity is prodigious, annually supplying:

- 30 percent of the nation's commercial fisheries:
- 40 percent of its wild furs;
- 66 percent of the migratory birds that use the Mississippi Flyway with winter habitat; and
- 25 million mandays of sport fishing and wildlife-oriented recreation.

The average annual value of these resources are estimated at over one billion dollars.

The marshlands are also valued as a:

- protector of federal and state navigation channels that link mid-continent producers with overseas consumers;
- buffer against devastating hurricane-driven surges;
- retarder of salt water intrusion; and
- source of fresh water for coastal communities, agriculture and industries.

The nation obtains 22 percent of its oil and gas from beneath the marshes and offshore waters. Thousands of miles of pipelines cross the area carrying oil and gas from offshore producing areas to inland refineries.

The Problem

Development of these resources and providing for the needs of the 2.1 million people who live in the area has required leveeing the Mississipp River and dredging over 8,200 miles of canals that have disrupted th deltaic processes resulting in:

- cessation of annual sediment deposition in the marshes and flushing o the estuaries with nutrient-rich, fresh water;
- land subsidence and sea level rise which caused a net change in th land and water surface elevations of 0.25 inch per year;
- retreat of the shoreline at average rates varying from 9 to 36 feet per year; and
- saltwater intrusion which decreased the area of the brackish and fresh marshes.

Collectively, these factors resulted in the conversion of approximately 560,000 acres of wetlands to open water between 1955 and 1978. Over the years, an additional 790,000 acres have been converted to agricultural, urban, and industrial uses. The only new lands being built are the delta in Atchafalaya Bay and the mudflats along the coastline to the west.

Forecast

Projecting the historic environmental trends to the year 2040 could result in the following changes:

- loss of one million more acres of wetlands;
- retreat of the shoreline as much as 33 miles inland;
- increased hurricane-induced flood damage and lands adjacent to the coastal area would be more susceptible to flooding;

- erosion and overtopping of levees which will require erosion protection and enlargement to maintain their current level of protection;
- damage to communities, water supplies and local infrastructure;
- increased maintenance dredging of navigation channels; and
- decreased fish and wildlife harvests by 32-percent.

The present value of the lost marsh, impacts to communities, development, and fish and wildlife harvests could reach into the billions of dollars.

Solution

The marshes are the result of riverine sedimentation processes which built a series of deltas that extended the landmass. Thus, any comprehensive plan to restore the marshes must be centered on the introduction of freshwater and sediment. The water and sediment of the Mississippi and Atchafalaya rivers can be diverted through controlled or uncontrolled structures installed in the river's levees wherever feasible. Another source of sediment is the maintenance dredging program of the U.S. Army, Corps of Engineers. Changing the policies governing federal flood control and navigation projects will require Congressional action. To coordinate restoration efforts, the state must establish an Office of Coastal Restoration and Management. The office would be responsible for developing and implementing the comprehensive plan in close cooperation with resource owners and users, and local and federal governments. But, plan implementation will hinge on Congressional action; the Congress must authorize major restoration projects and provide the funds needed to construct the projects.

Coalition to Restore Coastal Louisiana
5551 Corporate Blvd., Suite 3-E • Baton Rouge, LA 70808 • 504/926-0750

Good afternoon Mr. Chairman, Mr. Hayes and Committee members.

My name is Robert Gorman. I am the Chair of the Coalition to Restore Coastal Louisiana, a citizens' action organization. The Coalition has over seventy member organizations in it's year and one half of incorporation. These organizations include churches, environmental groups, civic groups, parish governments and businesses. I am also the Assistant Director of Catholic Social Services for the Diocese of Houma-Thibodaux. I live on Bayou Lafourche. My wife was born and raised on Bayou Little Caillou in Terrebonne Parish where her family still resides. Her father can now fish in waters covering land he farmed as a boy. He remembers his brothers grazing cattle on Timbalier Island and Isles Denieres which could be reached by wagon and a short ferry trip. The islands were very large had fresh water. It is now a 30 minute boat ride to those barrier islands, which are quickly eroding along with the wetlands behind them. Everyone in this area feels the urgency of the erosion problem because it affects our everyday lives.

My involvement in the preservation and restoration of Louisiana's coastal wetlands arises primarily from concerns about jobs, homes, land, recreation and culture.

Without the wetlands we lose the nursery for 90% of the Gulf seafood. With the depression in the oil industry local people have returned to fishing to make a living. If we lose the fishing, our unemployment, already the highest in America, will skyrocket. Other businesses will have tremendous relocation costs as erosion continues inland. Already local businesses feel the impact of FEMA regulations which increase their costs. Particularly in Southwestern Louisiana the agricultural losses due to erosion and subsidence are significant.

With the loss of the barrier islands and wetlands we lose our storm protection. As the wetlands erode we further lose storm protection since they absorb storm surges. The 1985 Hurricane Juan, a minimal storm, brought water into the homes of most coastal residents. People who never had water damage were shocked into an awareness of the effects of coastal erosion.

Wetland dependent recreation is a tremendous economic impact in South Louisiana. Fishing, hunting, boating, swamp tours and other activities are all dependent on healthly wetlands.

Louisiana's Coastal Wetlands . . . Our National Treasure!!

The language, food and culture of this area are completely intertwined with the environment.

These are all local concerns. There are tremendous national interests riding on the Louisiana wetlands as well. Louisiana's coastal wetlands, including the islands, are a national treasure equal to the Chesapeake Bay, Yellowstone Forest, and Prince William Sound. We have 40% of the U.S. Coastal wetlands. Our substantial contributions of seafood, hides and furs to national markets have been well documented by other speakers today. Our importance to ducks, geese and birds has likewise been attested to by experts. And, as the churches have pointed out, we are stewards of these resources with a moral obligation to protect them. Nationally and locally we have, in the past, practiced poor stewardship.

It is particularly galling to those of us interested in Louisiana's wetlands to see the public outcry and Congressional reactions to the Yellowstone fires of last summer and the Valdez oil spills of this year and the lack of urgency regarding our own loss of sixty square miles of Louisiana wetlands each year. Over one million acres have been lost since the turn of the century and we are well on our way to the second million acre loss in the next fifty years.

The federal government must be immediately involved in Louisiana coastal preservation and restoration for at least two reasons; our wetlands are a national treasure and the federal government helped create the conditions contributing to their loss.

The attached report, presented at the Ocean and Coastal Policy Briefing in Washington in February, outlines Congressional and federal agency actions we feel are necessary. A number of these recommendations have been included in Senate Bill 630, the Louisiana Wetlands Conservation and Restoration Act. The passage of this bill is critical. Coastal Louisiana desperately needs federal funds and federal agency attention in order to survive.

A congressional mandate directing the Army Corps of Engineers to add coastal restoration to its mission is essential.

The leadership of the Environmental Protection Agency in implementing the goal of no net loss of wetlands on a project by project basis is necessary. EPA must be directed to target Louisiana for preservation and restoration. To build wetlands in the midwest while allowing Louisiana to wash away is a tragic way to achieve no net loss.

Other federal agencies such as the Soil Conservation Service, U.S. Fish and Wildlife Service and the Bureau of Land Management, should also be directed to target greater efforts in Louisiana. We understand the Soil Conservation Service and the Army Corps of Engineers are preparing a programatic environmental impact statement on marsh management practices. We encourage rapid completion of this EIS. We also urge S.C.S. to include wetlands in their formula for determining total land acreage which is used to set their priorities. A greater presence of the other agencies is also urgently needed in coastal Louisiana.

Louisiana is a training ground for the development of coastal restoration and protection technology. Today, because of local geology, Louisiana experiences a relative sea level rise nine times that of the rest of the coast of the United States. Within 50 years, however, scientists tell us that global warming will bring to Massachusettes, Virginia,-Florida, California, and Alaska the kinds of sea level linked coastal problems that Louisiana experiences today.

Louisiana is blessed with a tremendous resource that no other state enjoys, the Mississippi River and delta, the sixth largest sediment carrying river in the world, and its major tributary the Atchafalaya River. That we are currently ignoring this unparaleled resource as a wetlands builder is nothing less than a national tragedy.

Recently we read of archeological research that documented the existence of fresh water diversion projects in pre-Inca Peru. These diversions shunted irrigation waters more than 70 kilometers through the Andean foothills. Today, we enjoy many technological advances over this early civilization, starting with the wheel, yet we shrink from the challenge of diverting nourishing sediments to subsiding areas a few miles from the Mississippi River.

The early Americans in Peru knew what they wanted to do and did not know it couldn't be done. Today we also know what needs to be done along our coast. We ask you to join the Coalition to Restore Coastal Louisiana in getting the job done.

RESTORE TESTIMONY ON COASTAL EROSION
FOR CONGRESSIONAL HEARING TO BE HELD IN LAKE CHARLES, LOUISIANA
FRIDAY, MAY 12, 1989

Testimony prepared by Michael Tritico, Biologist and President of **RESTORE**, 3800 Ryan St., Lake Charles, La. 70605

Testimony to be read into the record of the Hearing by Ernest Colonna, 1511 Moss St., Lake Charles, La 70601

Good afternoon. My name is Ernest Colonna. I appreciate the opportunity to testify here today. Others who would have testified had there been ample notice cannot because they had made prior committments. One of those is Michael Tritico, Biologist and President of **RESTORE**. He has asked me to read into the record of this hearing the following statement:

RESTORE, an environmental group formed in 1975, has, since that time, presented testimonies at almost every major coastal zone or wetland hearing which has been held along the northern Gulf coast. There should be no question about our positions in favor of wetland preservation and sensible management practices in the coastal zone. We were among the first to say things that are now being widely-accepted. Although it is heartening to see the slow development of a consensus on such issues, we are disheartened by the lack of development of a process which would allow us all to reach a consensus on obvious realities in some time frame shorter than a decade and a half. Just as certain insights were considered "unsubstantiated" or "far out" or "in need of further documentation" ten years ago, so are certain topics considered today to be "premature" or "not fully-investigated." Therefore, even though our scientific investigators, the eyes of our civilization, have seen far ahead, their voices are not heard until a crisis has become undeniable.

Some of us have been tempted to stop studying, inventing, and speaking, and just let the whole system rapidly self-destruct, with the hope that, in the long run that would result in less damage to the biosphere. **RESTORE** has not chosen that path, though, because it is beginning to look even more likely than it did fifteen years ago that the biosphere just will not survive unless some drastic and quick remedial actions are implemented. We continue to hope that the forces of greed and contrived ignorance will get out of the way before they take all living things down to doom with their own arrogant selfishness.

Back in the early and mid-seventies some of us were saying that criss-crossing the coastal zone with channels, with cattle walkways, with roads or anything else that interrupted the normal, gentle sheet-flow of waters across the wetlands would lead to faster and faster erosion of those wetlands. We were saying, back as early as hearings in 1973, that the Mississippi River Flood Control levees were not only setting up an eventual human catastrophe by misleading hundreds of thousands of people to settle in dangerously-flood-prone lowlands, but that the same flood control system was starving the marshes, pumping turbid, life-smothering mud into the coastal waters, and dramatically-distorting salinity regimes as far west as the Texas border. We were trying to get people to see an overall picture: physical, chemical, and biological stress that could have only negative impacts across the short and long term. We said what we had to say about those things and there is no point in wasting our time here today going back over the details in those areas.

Instead, if anyone cares to listen, we would like to move ahead with some observations that we had just begun to make or had not yet seen back in the early to mid-seventies.

One thing we did bring up in some of the early CZM hearings was the fact that relatively-slight sea level changes would have relatively large, rapid impacts in broad, flat coastal areas such as those we have in Louisiana. We knew that sea level had begun to climb, but we did not know that its climb was being accelerated by a man-made heating of the atmosphere and the consequent swelling of ocean waters. We were somewhat surprised to hear, in the late seventies, that the acceleration in sea level rise was caused by something called the Greenhouse Effect. We were not at all surprised, however, to hear, earlier this week, Dr. Hansen, the nation's leading expert on global warming, reveal to another Congressional committee that non-scientists were attempting to blunt his testimony, to give aid and comfort to those whose special interests are not compatible with a widespread public awareness of the truth about the rapidity of and degree of change in the earth's heat budget.

Why do people like Dr. Hansen have to be second-guessed and undercut by people who have not bothered to do their own homework? With time running out, let us just accept what the best set of eyes sees and make our plans accordingly. If we accept Dr. Hansen's reports and if we tie them into sea level studies such as are done by Dr. James Titus, what is the picture that we can project for impacts upon coastal erosion and any projects that we might try for prevention of that erosion?

What we see is a likelilhood of at least two more feet of rise in sea level across the next fifty years, perhaps four or five, and perhaps as much as twelve feet within a hundred years.

Can that rise be stopped or even slowed down significaantly? If we take some drastic measures soon, yes, perhaps we can bring things back under control sometime within the next couple of hundred years or so. Even if we started doing everything that can be done right away, it might take fifty or a hundred years to see the beginning of the turnaround. So, it looks like we are facing at least a three or four foot rise in sea level, no matter what. Is that a significant factor which should be considered in any planning for the effects of coastal erosion and any thoughts of coastal restoration? **RESTORE** thinks that it must be a primary consideration.

For example, think of one of the effects of coastal erosion, the loss of hurricane storm surge buffer zones. Since we are going to lose all land at elevation of two or three feet above sea level, we are going to lose thirty miles of buffer zone. Why should anyone waste time, effort, and tax dollars on projects that will be inevitably washed away? More importantly than those wastes will be the wastes in human life that will occur unless our coastal planning efforts face the truth. Perhaps that principle will be made clear to everyone when New Orleans, already below sea level, is suddenly washed away.

{Notice that the word used was "when," not "if." Michael Tritico was not the first to say it that way. The engineer LaTour said it that way in the 1700's as have others who would not let themselves be blinded by shortsighted greed and gutlessness. Michael Tritico has been the first to say that "When New Orleans is lost, it must NOT be rebuilt south of Lake Pontchartrain."} Why should the taxpayers who have good sense keep picking up the tab for people who live where humans were not meant to settle? Yes, it is tragic when hundreds of people drown in a hurricane, but would we not be doing the best for those people if we get them out of harm's way in advance, rather than reinforcing some false hopes that will leave them there to draw in even more victims?

By taking into account the global warming and swelling of the sea, and the fact that millions of people today live in areas where their drowning cannot be prevented, we should be able to discern that the top priority of coastal planning would have to be relocation of human resources to high ground. That has to be a higher priority than to waste efforts trying to make a dike, then pump it out from behind, then stick a finger in it here and there and on every coastline in America.

Let the sea do what it is going to do anyway. Let it encroach upon the rice fields and let them be come the new Spartina marshes, sustaining our fisheries, furs, and the other things that made Louisiana's old way of life a renewable resource-based way of life. Let the old Pleistocene ridges become the new chenier ridges. Stop trying to buy out Nature because it cannot be done.

Let the Calcasieu River revert back to its meandering ways. Remove the jetties and let the Gulf and the River together reestablish the hemispherical sand bar at Calcasieu Pass thereby giving us back the natural mechanism for prevention of saltwater intrusion. By removing the jetties you will also remove the force which created the gyral which has been chewing up the West Cameron Parish beaches and the coastal highway. "But what about the shipping industry, and all those big petrochemical tankers that have to get in and out of the Lake Charles area?" you say. Let them take advantage of the LASH (lighter aboard ship) technique that has been proved practical in other parts of the world. Why should we have to subsidize with rapidly and completely lost wetlands and fisheries, industries which do have alternatives that would cost them so little? They could more than make up having to pay their own way, anyway, especially if they would once wise up and participate in our society on a fair basis, rather than by "spreading the cost around," to those of us who have no voice in their management decisions. Once those industries realize that they will have to pay what are now "hidden costs" that we pay for them, you can bet that all their enterprises will become more streamlined and efficient. That will help them as much as it will help us.

There are many things to consider when planning coastal expenditures. A high priority would have to be the timely relocation of hazardous wastes which have been and are still being landfilled in the wetland area. Take, for example, the massive tombs being built just south of Carlyss, just north of the Intracoastal Waterway. At a 1989 ground surface elevation of 5 feet above sea level, tombs exist and are being built which go down thirty feet below sea level and rise up another thirty feet, and which are hundreds of feet long. Those are huge bundles of extremely-toxic, non-biodegradable wastes, just waiting to be scoured away by the next storm surge across the area. The National Hurricane Center in Miami has computerized projections showing a surge of 28 feet above sea level crossing the tombs under certain storm conditions, such as if a storm like Gilbert comes in at Johnson Bayou. In Calcasieu Parish alone we have, in addition to that hazardous waste site, at least four other ones at elevations less than ten feet above present sea level.

Does **RESTORE** object to spending any money whatsoever on things such as surfzone baffles, giant blocks for diversion of currents, bulkheads, selectively-placed rip-rap, etc.? We do not object to such projects when they can be shown to be both:

1) vital for the protection of critical public facilities &
2) likely to work for a long enough period of time to allow:
    a. relocation of the protected facilities to safely high ground, or,
    b. development of an alternate means of providing the critical public service required.

(Two examples of facilities which should probably receive some assistance in forestalling oceanic encroachment are the Key West Naval Air Station & the Strategic Petroleum Reserve @ Hackberry.)

Gentlemen, had we been given reasonable advance notification of this hearing, or had it not been scheduled at exactly the same time as was another important hearing (on the poisoning of Willow Springs) for which we were also given only four days notice, the **RESTORE** testimony could have been more adequately organized. We might have said many other things in the same amount of time, with more clarity. All we can do is hope that we did get some points across and that you will see what can be seen. Thank you for at least starting to try.

Michael Tritico
Michael Tritico, Biologist

STATEMENT

of the

AMERICAN PETROLEUM INSTITUTE

submitted to the

SUBCOMMITTEE ON WATER RESOURCES

COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION

U.S. HOUSE OF REPRESENTATIVES

on

Status of Wetlands Legislation

May 12, 1989

The American Petroleum Institute is a national trade association composed of some 200 companies and more than 5,000 individuals engaged in petroleum exploration, production, transportation, refining and marketing in the United States. We appreciate the opportunity to submit our comments for the hearing record of May 12, 1989 on the status of wetlands legislation. Many of our members are particularly interested in petroleum operations in wetlands. Keeping these lands open to future exploration and ongoing development, plus related activities is of great importance to the energy security of this nation. Currently, the major regulation covering petroleum activity in wetlands is the Clean Water Act's Section 404 dredge and fill permit program.

The loss of our nation's wetlands has within the last few years received increasing attention, especially since the publication of the final report of the National Wetlands Policy Forum late last year. The Forum was assembled in mid - 1987 under the auspices of the Conservation Foundation and at the request of the EPA. The Forum membership represented a wide range of interests including environmental organizations, industry representatives and government officials. The objective of the Forum was to develop a broadly supported series of recommendations on how federal, state and local wetlands policies could be improved.

The Forum's major recommendation is to establish as national policy the goal of, "no overall net loss" of the nation's remaining wetlands base which is defined as an equilibrium balancing wetlands losses and gains. The Forum proposes over 100 recommendations to achieve this goal. The Forum also states that the no overall net loss goal must be implemented on a national basis, not applied on a case by case permit specific basis. The report also acknowledges that the wetlands of Louisiana present a special case due to the unique conditions that exist there.

The American Petroleum Institute is concerned that the Forum's goal is being more narrowly defined and implemented on a permit by permit basis. The state of Louisiana presents a good example of why all sources of wetlands loss should be addressed, as the Forum recommends, and not just those activities currently covered by the Section 404 permit program.

Louisiana, which has 40% of the continental U.S. wetlands, is experiencing of 80% of the loss. Estimates of Louisiana wetlands loss ranges between 35 - 60 square miles a year. Many factors contributed to this high loss rate, the majority of which are not covered by the Section 404 regulations. Natural erosion and subsidence has for centuries destroyed wetlands. Prior to levy construction and other types of flood and erosion control, sediment deposition from the Mississippi River into the wetlands delta region historically replaced more than the lost areas. As the course of the Mississippi changed over the centuries, abandoned deltas would erode while active deltas would be built up at a rapid pace.

The building of water control structures and levees designed to control flooding restricted the flow of sediments that used to replenish and rebuild the wetlands in the Mississippi delta. The current channel of the Mississippi River deposits the sediment into the deep water of the Gulf of Mexico where no additional wetlands are created. Upriver erosion control activity and damming of the Mississippi's tributaries have further reduced the sediment load. Thus wetlands are not being naturally replenished. The only area where new wetlands are being created is in the Atchafalaya River delta. The high wetlands loss rate continues in the rest of Louisiana largely as a result of natural erosion and subsidence.

The American Petroleum Institute believes that any program to reduce and reverse the loss rate of Louisiana's wetlands must take into account the above mentioned factors. The majority of the loss -upwards of 80%- is occurring outside the scope of the current Section 404 framework. The National Wetlands Policy Forum realized the special nature of wetlands loss when it noted the difficulty of achieving the no overall net loss goal in Louisiana. Efforts to reverse the losses that concentrate solely on the activities regulated under the Section 404 permitting program will not only be futile but may reduce our nation's supply of available petroleum. We urge the members of the Subcommittee to develop solutions to the wetlands loss problem that take into consideration the major causes of wetlands loss in the region.

Thank you for the opportunity to submit our comments for the hearing record.

State of Louisiana
DEPARTMENT OF JUSTICE
LANDS AND NATURAL RESOURCES DIVISION
Post Office Box 94095
Baton Rouge, Louisiana 70804-9095

WILLIAM J. GUSTE, JR.
ATTORNEY GENERAL

TELEPHONE (504) 342-7900

May 10, 1989

Congressman Jimmy Hayes
901 Lakeshore Drive
Lake Charles, Louisiana 70601

Dear Congressman Hayes:

I am gratified that the House Subcommittee on Water Resources has scheduled a hearing in Louisiana as part of its effort to develop a national wetlands policy. Rhod Shaw of your staff indicated you would read the enclosed Attorney General's position paper in regard to wetlands protection into the record of your proceeding, and I would very much appreciate your doing so.

Again, let me congratulate you and the subcommittee on convening a hearing in the state which has the most to lose in terms of wetlands destruction, and the most to gain from an enlightened national wetlands policy.

Yours very truly,

William J. Guste

WILLIAM J. GUSTE, JR.
Attorney General

WJG,jr/JBS,jr/bjb

enclosure

STATEMENT OF ATTORNEY GENERAL WILLIAM J. GUSTE, JR.
TO
THE HOUSE SUBCOMMITTEE ON WATER RESOURCES
MAY 12, 1989

THE LOUISIANA COAST - WHICH HOSTS THE DELTA OF THE GREATEST RIVER IN NORTH AMERICA, FORTY PERCENT OF THE NATION'S WETLANDS, THIRTY PERCENT OF THE NATION'S FISHERIES, TWO MILLION PEOPLE, FOUR MILLION DUCKS AND GEESE, AND PROVIDES NURSERY GROUNDS FOR COUNTLESS BILLIONS OF ORGANISMS WHICH FUEL THE FOOD CHAIN OF THE ENTIRE GULF OF MEXICO - IS ARGUABLY THE MOST SERIOUSLY THREATENED ECOSYSTEM IN THE NORTHERN HEMISPHERE.

THE COAST OF LOUISIANA IS ALSO A WORLD TREASURE, A BUFFER AGAINST HURRICANE STORM SURGE FOR LOUISIANA'S COASTAL CITIES, AND THE MOST IMPORTANT ECOLOGICAL LABORATORY ON THE GLOBE FOR THE STUDY OF LAND LOSS AND REPLENISHMENT.

UNFORTUNATELY, THE DESTRUCTION OF THE MISSISSIPPI RIVER DELTA AND IT'S BORDERING MARSHES AND HARDWOOD BOTTOMS IS A CATASTROPHE WHICH THE NATION HAS LARGELY IGNORED.

IT IS ESSENTIAL TO A WISE AND ENLIGHTENED NATIONAL WETLANDS POLICY THAT THE HIGHEST PRIORITY BE GIVEN PROTECTION OF THE MOST IMPORTANT AND MOST VULNERABLE WETLANDS IN OUR NATION, WHICH ARE LOUISIANA'S COASTAL MARSHES.

EIGHTY PERCENT OF WETLAND LOSS IN THIS COUNTRY OCCURS IN LOUISIANA. IN MY VIEW, THAT LOSS COMMANDS A PROPORTIONATE DEDICATION OF WILL, ENERGY AND RESOURCES TO SALVAGING WHAT IS

LEFT OF LOUISIANA'S COAST.

THE WORK OF MAN AND THE FORCES OF NATURE ARE VISITING UPON SOUTH LOUISIANA AN ANNUAL WETLAND LOSS ROUGHLY EQUIVALENT TO THAT WHICH WOULD BE OCCASIONED BY THE DETONATION OF SEVERAL NUCLEAR BOMBS A YEAR OVER LOUISIANA'S COAST - SOME FIFTY TO SIXTY SQUARE MILES OF SOME OF THE WORLD'S MOST PRODUCTIVE LAND.

THE LAND LOST TO LOUISIANA NOT ONLY PROVIDES FOOD FOR THE NATION'S TABLE, BUT ALSO DEFINES AND NOURISHES THE PERSONALITY AND CULTURE OF THIS STATE. SAVING OUR WETLANDS MEANS SAVING OUR WAY OF LIFE AS WELL AS RESCUING AN ENVIRONMENTAL RESOURCE OF INCALCULABLE VALUE.

I WOULD URGE THIS SUBCOMMITTEE TO RECOGNIZE THAT LOUISIANA HOSTS THE LARGEST CONTIGUOUS MASS OF WETLANDS ON THE CONTINENT, THAT LOUISIANA'S WETLANDS CONSTITUTE A RESOURCE OF IMMENSE VALUE TO THE NATION AND THE WORLD, AND THAT THE RESCUE OF THE ESTUARY OF NORTH AMERICA'S GREATEST RIVER SHOULD BE AT THE TOP OF THE LIST OF ANY WETLANDS POLICY AGENDA.

IT IS MY PLEA TO THIS COMMITTEE, AS ATTORNEY GENERAL OF LOUISIANA, THAT YOU ELEVATE PROTECTION OF LOUISIANA'S WETLANDS - THE GREATEST SEAFOOD NURSERY ON PLANET EARTH - TO A LEVEL COMMENSURATE WITH THE VALUE OF THOSE WETLANDS TO THE NATION.

LOUISIANA COASTAL WETLANDS CONSERVATION AND RESTORATION ACT

SECTION BY SECTION ANALYSIS

SECTION 1. SHORT TITLE

The Act shall be cited as the Louisiana Coastal Wetlands Conservation and Restoration Act.

SECTION 2. FINDINGS

This section outlines: the environmental and economic benefits of wetlands; the high proportion of the nation's coastal wetlands located in Louisiana; the values of coastal wetlands; the rapid and disproportionate rate of loss of coastal wetlands in Louisiana; the loss of such wetlands is primarily due to federal navigation and flood control activities on the Mississippi River; the national benefits that have resulted from the development of the Mississippi River and the need for a plan to restore and conserve the coastal wetlands of Louisiana.

SECTION 3. PURPOSE

The purposes of the bill are to provide for: 1) development and implementation of a coastal wetlands restoration program and 2) the development and implementation of a program by the State of Louisiana that achieves a goal of no net loss of coastal wetlands as a result of development activities.

SECTION 4. DEFINITIONS

The terms the "Secretary", "Administrator", "Governor", "State", "restoration", and "development activities" are defined.

SECTION 5. AGREEMENT TO DEVELOP A LOUISIANA COASTAL WETLANDS CONSERVATION AND RESTORATION PLAN

The Corps and EPA are directed to enter into an agreement to assist the State of Louisiana in the development of a coastal wetlands restoration and conservation plan if requested to do so by the Governor.

Once that agreement is signed: the State is eligible for $5 million of federal planning grants for each of the three years until the plan is developed; all coastal wetlands planning and restoration work being conducted by the Corps, prior to and on the date of signing the agreement, shall proceed on a non-cost shared basis; and all projects or studies which significantly contribute to coastal wetland restoration shall be deemed to have a favorable benefit to cost ratio.

The State is to designate a single agency to develop the plan. The plan must be completed within three years from the date of signing the agreement.

SECTION 6. LOUISIANA COASTAL WETLANDS CONSERVATION AND RESTORATION PLAN

The plan is to accomplish two primary objectives: to achieve a goal of no net loss of wetlands as a result of development activities in coastal Louisiana and to develop a plan for conservation and restoration of coastal wetlands. It is not intended that no net loss be achieved on a project by project basis. The State would have flexibility in determining how that goal shall be met.

SECTION 7. ELEMENTS OF THE PLAN.

The plan shall require development of a program, to be administered by permit and enforced by the State to achieve overall no net loss of coastal wetlands as a result of development activities and to develop and implement projects for coastal wetlands restoration.

In addition, the state shall develop programs to educate the public on the importance of wetlands, shall encourage the use of technology to minimize wetland loss associated with development, and shall review the necessity of providing regulatory or non-regulatory incentives to minimize development of privately owned wetlands.

SECTION 8. PERMIT PROGRAM

The plan shall describe a State operated and enforced permit program to achieve the no net loss goal for coastal wetlands within the State of Louisiana.

SECTION 9. APPROVAL OF THE PLAN

The Governor shall submit the draft plan to the Secretary and the Administrator for approval. If it is found to be sufficient to implement the provisions of the Act, the plan shall be approved.

SECTION. 10. IMPLEMENTATION AND ENFORCEMENT OF THE PLAN

This section provides that once the plan is approved, its provisions shall be implemented and the State shall be eligible for trust fund monies to carry out coastal restoration projects and other programs authorized by the plan. One agency in the State shall be in charge of implementing and enforcing the plan.

SECTION 11. SANCTIONS FOR NONCOMPLIANCE

If the Secretary or the Administrator find the State is not adequately implementing or enforcing the plan, they may suspend grant monies given under this Act, or they may revoke approval of the Plan.

SECTION 12. LOUISIANA COASTAL WETLANDS CONSERVATION AND RESTORATION FUND

A Trust Fund shall be established in the Treasury for Louisiana coastal wetlands conservation and restoration. It shall be funded by 5% of all annual bonuses, rents and royalties received from OCS exploration and development activities. In 1987, that would have amounted to approximately $145 million.

SECTION 13. GRANTS.

Money from the trust fund shall be available to the state to fund coastal wetlands projects authorized by the Plan, or for implementing any other provision of the plan.

SECTION 14. FEDERAL OVERSIGHT

This section requires the Governor to report to the Secretary and the to Administrator on the status of developing the plan and of implementing the plan once the plan has been approved. The Secretary and the Administrator are to prepare and submit similar reports to the Congress.

SECTION 15. ADDITIONAL AUTHORITY FOR THE CORPS OF ENGINEERS

The Corps is directed to give projects for the protection, restoration, and creation of wetlands equal priority with projects relating to navigation and flood control.

and Central United States. In the months ahead, our committee will look closely at this bill and other ways to improve America's earthquake program. This is a national program to address a serious national problem. It is a program that needs to be strengthened, and I thank Senator CRANSTON for his efforts to do so.

● Mr. GORE. Mr. President, I am pleased to be an original cosponsor of the Earthquake Hazards Reduction Act of 1977 Amendments. I fully believe that these amendments will reinvigorate the National Earthquake Hazards Reduction Program [NEHRP], refocusing it on the act's goal of reducing hazards. I also want to congratulate my distinguished colleague from California [Mr. CRANSTON] on his efforts to improve the national program to reduce the hazards from earthquakes.

The Earthquake Hazard Reduction Act of 1977, which Senator CRANSTON authored, was designed "to reduce the risks of life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards reduction program." The first decade of the National Earthquake Hazards Reduction Program [NEHRP] advanced our understanding of earthquakes and what should be done to prevent deaths, injuries, and damage from them. Under the aegis of NEHRP, basic research efforts have added tremendous amounts of information to what we know about earthquakes.

Yet despite the program's successes, Members of Congress, structural engineers, State and local emergency management agency directors, and many others are concerned about the direction and future of the program. For example, since the program was established, its funding has declined 40 percent in real dollars. We need to make sure that we allocate adequate funds for critical earthquake research and mitigation programs. At the same time, we need to apply effectively the research and knowledge that we have already developed. I am quite concerned that NEHRP, so successful in studying eathquakes and the associated hazards, has neglected to implement this information or transfer it to the right people. Like my colleague from California, I believe that we need to take a fresh look at the national program. We need to shift the emphasis from basic research to applications with direct impact on hazards reduction. We know what needs to be done. But we need to do it.

After studying the problems in NEHRP, I concluded that we had to restructure the program and refocus our efforts on hazard mitigation. I believe that this legislation, amending the Earthquake Hazards Reduction Act of 1977, moves us from a strongly research-oriented program to one that continues important research programs but also transfers that research it practical prevention and hazard mitigation programs, using what we have learned about earthquakes to prevent deaths and minimize destruction in the event of one.

Changing the lead agency from the Federal Emergency Management Agency [FEMA] to the U.S. Geological Survey [USGS] is the main part of this bill. In December 1987, an expert review committee appointed by FEMA called into question FEMA's role as lead agency for NEHRP. In fact, that committee questioned whether any agency could satisfactorily run the program which is hampered by insufficient resources and has to coordinate the work of four agencies—FEMA, USGS, the National Science Foundation, and the National Institute of Standards and Technology. However, I believe that the USGS can do the job. The field-oriented Survey has a proven record of success, works well with State and local governments, and has a large and highly respected staff which is extremely knowledgeable about earthquakes. This legislation takes key steps to reform the Nation's earthquake program without requesting more funds. Having traveled far in 10 years, we need to recalibrate our position and aims and make sure that the NEHRP program is headed in the right direction. I firmly believe that this legislation does that.

In the past few years, we have begun to recognize that earthquakes are not just California's problem. For example, in the winter of 1811-12, three of the most devastating earthquakes in history struck the Mississippi Valley at New Madrid, MO, a hundred miles upriver from what is now Memphis. According to one account of those powerful earthquakes, "the ground sank, trees were whirled away, and the Mississippi reversed its current." The shocks rang church bells as far away as Boston. Today, we must make sure that the national earthquake program takes full advantage of our accumulated knowledge and applies it to reduce the danger from earthquakes.

As chairman of the Science, Technology, and Space Subcommittee with jurisdiction over NEHRP, I plan to hold hearings to discuss thoroughly this legislation. Again, I want to thank my distinguished colleague from California for his hard work on this national problem. I look forward to working with him and others to make sure that the National Earthquake Hazards Reduction Program does what it is intended to do: reduce the danger from earthquakes.

By Mr. BREAUX (for himself, Mr. MITCHELL, and Mr. JOHNSTON:

S. 630. A bill to conserve, protect, and to restore the coastal wetlands of the State of Louisiana, and for other purposes; to the Committee on Environment and Public Works.

LOUISIANA COASTAL WETLANDS CONSERVATION AND RESTORATION ACT

● Mr. BREAUX. Mr. President, I rise to speak about one of the most pressing environmental issues facing this Congress—wetlands loss. Why should we be concerned about the loss of our Nation's wetlands? We are familiar with the old line: "Well, if you believe this one, I'll sell you some swamp land in Florida." This one liner gives the impression that wetlands are not valuable. And, in the past, conversion of wetlands to other uses was encouraged because wetlands were considered wastelands. So, is swamp land valuable? The answer is an emphatic "Yes."

ECONOMIC AND ENVIRONMENTAL VALUES OF WETLANDS

The citizens of the United States benefit daily from the numerous economic and environmental benefits of wetlands in both their natural and their developed state. The environmental values of wetlands include providing valuable habitat for aquatic, terrestrial, and migratory bird species; enhancing and maintaining water quality; forming barriers to waves, floods and erosion; and nurturing valuable commercial and recreational fisheries. The economic values of wetlands include providing: valuable fish, fur, energy and other natural resources, land for water dependent activities such as port and marina development, and land for agriculture, housing and business development.

WETLANDS LOSS—A NEW NATIONAL PRIORITY

Last year, the National Wetlands Policy Forum, a coalition of environment, industry, academic and Government interests convened to examine the causes of, and solutions for, wetlands loss. The forum report estimates that the United States has lost over 50 percent of its wetlands since European settlement began. This report has thrust wetland loss to the forefront of national attention. The report calls for a goal of no net loss of wetlands to arrest the rapid rate of loss. President Bush has embraced a goal of no net loss of wetlands.

Mr. President, the State of Louisiana contains 25 percent of the vegetated wetlands in the lower 48 States and 40 percent of the Nation's coastal wetlands. I fully recognize the national importance of wetlands resources and fully support the goal of no net loss of wetlands. The bill I am introducing today is an important step in defining and achieving that goal.

CONCERN ABOUT WETLANDS LOSS IS NOT NEW TO LOUISIANA AND FEDERAL AGENCIES

The concern about wetlands loss is not new to the citizens of Louisiana or to the Federal Government. The State of Louisiana is experiencing a disproportionate share of the Nation's wetlands loss; 80 precent of the total loss of coastal wetlands in the United States is occuring in Louisiana. If this loss is not arrested, the State of Louisiana is estimated to lose an area 1½ times the size of the State of Rhode Island by the year of 2040.

Beginning in 1967, the House and the Senate passed resolutions to study coastal wetlands loss in Louisiana. Since that time, the State and the Federal Government have devoted large amounts of time and resources to study the causes of the rapid rate of loss of coastal wetlands. The U.S. Environmental Protection Agency, the U.S. Army Corps of Engineers, and the U.S. Fish and Wildlife Service have all published reports that address the issue of coastal wetlands loss.

There is consensus among the Federal agencies that activities of the Federal Government to develop the Mississippi River for navigation, flood control, and port development projects are a major cause of coastal wetlands loss in Louisiana. Since 1928, $5.9 billion has been spent to construct a series of levees and flood control structures along the Mississippi River under the congressionally authorized Mississippi River and tributaries project. This project has been credited with preventing 111.3 billion dollars' worth of flood damages along the Missisippi River.

While beneficial, the flood control levees have confined the flow of the Mississippi River and its sediments. The river, before being constrained between the levees, used to overflow its banks and move water and sediment into adjacent marshes. This constant supply of sediment helped build and enrich the wetlands. However, the levees are preventing the natural nourishment process and the adjacent wetlands have been, in effect, starved. The levees prevent freshwater from entering the wetlands. Freshwater acts to push back salt water. Lack of freshwater results in saltwater intrusion onto the wetlands and kills the nonsalt tolerant marshes and replaces them with open water.

The forum report affirms the conclusion of these agencies, and specifically recognizes the importance of coastal wetlands in Louisiana:

> One nationally important wetlands system that should be a focus of this initiative is the Louisiana Coast * * * this area is suffering extremely high wetlands losses from erosion and subsidence, largely as a result of government flood control and other water resource projects. Proposals for diverting Mississippi River sediment into this region to offset these losses should be developed and implemented.

Loss of coastal wetlands in Louisiana will be felt far more broadly than in the State of Louisiana. Loss of coastal Louisiana wetlands alone will result in: an estimated loss of 30 percent of the total commercial fish and fur harvest in the gulf coast by the year 2040 (Louisiana alone contributes 46 percent of the Nation's total shrimp harvest) and loss of wintering habitat of nearly 6 million migratory birds. The loss, if unchecked, will require billions of dollars to protect or relocate Federal, State, and local infrastructure development including, 155 miles of banks on the Mississippi River built by the Federal and State governments; 100 miles of Federal and State highways, 27 miles of railroad tracks, 1,570 miles of oil and gas pipelines, and 383 miles of gas, water, and electric power and telephone lines.

After nearly 20 years of concern and study of wetlands loss in Louisiana, now is the time to take action to restore coastal wetlands and to minimize future losses of coastal wetlands.

SUMMARY OF THE BILL

The problems of coastal wetlands loss in Louisiana have been extensively studied. The coastal wetlands of Louisiana are unique, the disproportionate rate of loss of those wetlands is unprecedented, and the cause of the losses of those wetlands is unique. Coastal wetlands loss in Louisana is reaching crisis proportions and the time for action is now. The legislation I am sponsoring today is designed to arrest the rapid rate of loss of coastal wetlands and to prevent further erosion.

Under this bill, the Governor of Louisiana may elect to enter into an agreement with the Secretary of the Army and the EPA to develop a coastal wetlands restoration and conservation plan. One office within the State will be in charge of developing the plan. The State has 3 years to develop the plan in consultation with the corps and EPA. The bill authorizes that the State receive $5 million for planning assistance for each of 3 years until the plan is completed.

The plan is to have two major components. The plan shall include provisions to deal with development related wetland loss over which the State can exercise control, and provisions to restore coastal wetlands lost as a result of taming the Mississippi River to provide national navigation and flood control benefits.

First, the plan shall include a program that builds on ongoing Federal work to develop solutions to coastal wetland erosion and restoration. The plan shall identify coastal wetlands in need of restoration and identify projects to restore those areas. The restoration activities will not be counted toward the no net loss goal. Rather, restoration activities will result in a net gain of wetlands in Louisiana.

Second, it shall include a wetland permitting program applicable to the coastal area of Louisiana, to be developed, implemented, and enforced by a single agency in the State under State law. The program is to achieve a goal of "no net loss" of coastal wetlands as a result of development activities causing the loss or conversion of wetlands.

The State would have flexibility in determining how the no net loss goal would be achieved, except that it is not the intent of this bill to require no net loss on a project-by-project basis or to require on-site compensation if it is not possible.

Restoration activities included in the plan, and approved by the corps and EPA, will be funded through a trust fund established by this bill. The trust fund would be financed by 5 percent of annual revenues received from Federal Outer Continental Shelf [OCS] development in the form of bonuses, rents, and royalties. In 1987, that figure would have amounted to $145 million.

Why use OCS revenues? The State of Louisiana alone contributes 84 percent of the total OCS revenues to the General Treasury. It seems more than equitable to dedicate a small portion of OCS revenues generated from coastal Louisiana development to restoration of Louisiana's coast.

CONCLUSION

Mr. President, we have learned the lesson that wetlands are not wastelands. Louisiana has known this fact for many years and has seen its coastline rapidly diminish. Coastal wetlands are a vital national resource and provide critical habitat for fish, fur, and bird resources. Louisiana contains 40 percent of those wetlands but is experiencing 80 percent of the total wetlands loss. This loss is mainly the result of the taming of the Mississippi River through Federal navigation and flood control projects. By controlling the river upstream, we have starved the delta, the mouth of the Mississippi, which has resulted in the unprecedented loss of coastal wetlands.

Arresting wetlands loss is an important national objective. The National Wetlands Policy Forum and the President endorse a no net loss of wetlands goal. This bill is an important first step in achieving this goal. With a requirement of no net loss of wetlands resulting from development in coastal Louisiana combined with aggressive wetlands restoration projects, I believe we will go a long way toward saving this critical national resource and setting the tone for wetlands protection nationwide.●

By Mr. BREAUX (for himself and Mr. INOUYE):

S. 631. A bill to further the development and maintenance of an adequate and well-balanced American merchant marine; to the Committee on Commerce, Science, and Transportation.

FURTHERING DEVELOPMENT OF THE AMERICAN MERCHANT MARINE

● Mr. BREAUX. Mr. President, today I rise to introduce legislation on behalf of myself and Senator INOUYE which is intended to further the development and maintenance of an adequate and well-balanced American merchant marine. Title I is identical to a measure which passed the Senate unanimously in 1986; it would amend the Merchant Marine Act of 1936, by reestablishing the requirement that vessels of U.S.-registry be used for any international ocean [illegible] mail originating in the [illegible]

Title II attempts to respond to [illegible] of the recent recommendations of the Presidential Commission on Merchant

Allan Ensminger
(504) 394-2463

HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION

SUBCOMMITTEE ON WATER RESOURCES

CHAIRMAN NOWAK

Mr. Chairman and members of the Subcommittee on Water Resources. It is indeed a privilege to submit comments on the issue of coastal erosion in Louisiana. I was one of the hardy souls that lasted through the entire hearing held in Lake Charles, Louisiana on May 12, 1989.

I was particularly pleased that you and other members of the committee had an opportunity to visit the Rockefeller Wildlife Refuge and view first hand some of the successful programs that have been carried out on this area by the Louisiana Department of Wildlife and Fisheries. In addition to viewing the Rockefeller Refuge, the aerial tour of southwest Louisiana clearly revealed the problems of salt water intrusion and subsidence that is so destructive to our fragile ecosystem.

My background and experience have provided me with the unique position of knowing first hand that the coastal wetlands of Louisiana can be managed to maintain plant communities and reduce land loss. For 30 years I worked for the Louisiana Department of Wildlife and Fisheries. Most of the large scale management program that you viewed at Rockefeller was conceived by myself and staff members, such as Mr. Ted Joanen and others. Implementation of the programs was possible because of the extensive revenue derived from oil and gas production on the Refuge. The Deeds of Donation by which this area and other similar tracts were given to the State, contained conditions that needs of the area were to first be attended too before any other use could be made of the funds. Many of the management programs at Rockefeller and other state wildlife refuges were copied from successful one's being carried out by private sector landowners.

During the past four and one half years, I have conducted a wetlands consulting service. My major activity has been trying to obtain for private wetland owners, the necessary

Wetlands and Wildlife Management Co. • P.O. Box 158 • Belle Chasse, LA 70037

HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION
SUBCOMMITTEE ON WATER RESOURCES

Louisiana Coastal Use Permit and U.S. Army, Corps of Engineers Permit under Section 404 (b). The delays and difficulties associated with this process are unbelievable. These problems are mainly due to the nature of the Acts at both the State and Federal level and resultant regulations that were promulgated by persons unfamiliar with the management of large ecosystems such as those found along the Gulf of Mexico.

As was pointed out in the hearing by the Soil Conservation Service representative, this agency develops Marsh Management Plans for private landowners to protect their lands from saltwater intrusion and at the same time provide an increased habitat base for the production of target species of fish and wildlife resources. As you heard, few if any of the plans developed by the SCS have been permitted as applied for. In some cases, the plans are so altered or reduced in scope that they are of little value to a landowner to accomplish his goals. Much of the unnecessary fine tuning of the Marsh Management Plans appears to be typical "job justification" by the State and Federal Agencies responsible for commenting upon and regulation of the various wetland protection acts. Even the Programatic Environmental Impact Study being conducted by the Corps of Engineers presents an image to the private sector as being a delaying tactic to slow down Marsh Management activities. My justification for this observation is that the Corps has expanded the New Orleans District staff in it's Evaluation Section and duplicates the same process that the Louisiana Department of Natural Resources uses in issuing the Coastal Use Permit required by State law. The dual permitting system does not work well and accomplishes absolutely nothing except to harass the private sector landowners willing to spend the money to conduct wetlands conservation work on their properties!

In addition to the above stated problems facing private landowners has been the imposition of extensive monitoring conditions in the final permits issued for these activities. This is a burden upon the landowner to provide information that has little if any benefits for the proper restoration and long term viability of a wetlands ecosystem. In most cases, external influences far beyond the control of the landowner are the causative agents of coastal erosion. Such influences in Louisiana would be the Gulf Intracoastal Water Way, the Mississippi River-Gulf Outlet, the Houma Navigation Channel, and the Calcasieu Ship Channel that serves the Port of Lake Charles and which you observed first hand during your tour. While it would be nice to know each facet of the ecosystem, it is not necessary to have this data available to make rational and meaningful management decisions. Even the information that I and others used to manage the Rockefeller Refuge was far less encompassing than that being required of private landowners trying to protect their own lands today.

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During the later part of the hearing in Lake Charles, Mr. Gerald Voisin, Land Manager for the 660,000 acre Louisiana Land and Exploration Company property, made a point that may not have been fully understood or appreciated by the Committee. He stated that in some cases "the landowners have been viewed by some agencies as being the enemy"! I can assure you, as a private consultant, that this is a very accurate and true perception projected to the private landowner by the State and Federal agencies. A very good point was made by Congressman Billy Tauzin that the Clean Water Act is a prohibitive Act and until this is changed and the regulations turned around to encourage the private landowners to protect their properties, little progress can be accomplished. Under the present system of permit application, review, and changes to accommodate each and every organism using an ecosystem, coastal erosion will continue and the few landowners willing to expend large sums of money to protect their wetlands will be turned away from programs that would otherwise save some areas.

Along this same line, Congressman Tauzin pointed out that it is much more cost efficient to implement programs to protect and manage an existing marsh area than it is to try to restore an equal amount of wetlands after they have been impacted. I can attest to this position. Some marsh management projects have been dropped from consideration due to the lack of funds both in the public (State of Louisiana, Dept. of Wildlife and Fisheries) and the private sector. Without extensive mitigation assistance, many smaller landowners of 5,000 acres or more, would not be able to expend the thousands of dollars required to construct water control structures and levee to provide water level management suitable to revegetate a wetlands after it has been impacted. While oil and gas activities have provided many landowners with funds to carry out wetland management programs, little mitigation money is now available due to the reduction of this type of activity in the coastal section of Louisiana. At the present market value of oil and gas and the difficulty in obtaining permits to carry out exploration and production activities in the Louisiana coastal zone, less and less of this type of assistance can be anticipated by the landowners.

Congressman Hayes asked a very pointed question of the Federal Panel of witnesses and, in my opinion, he did not get a suitable answer. He asked if the present permitting system would have been in place during the development stage of the Rockefeller Refuge properties, would the Refuge look like it does today. It is my professional opinion, based upon the difficulty that private landowners are having to obtain permits to implement many of the same identical programs found on the Rockefeller Refuge, that most of the large impoundments would not have been approved and deterioration of the area would have continued. At the time I went to work on the Refuge in 1954, extensive areas had been impacted by a combination of an over population of muskrat and uncontrolled saltwater intrusion. In order to comply with the Deed of Donation to protect the property, a program was developed to reduce the saltwater intrusion problem and restore vegetation to those areas that would be attractive to wildlife resources. At that time the Refuge was carrying a total winter population of waterfowl of approximately 50,000 ducks. With the present system, as high as 600,000 ducks use the area each winter.

Mr. Chairman, during your opening remarks and at other points during the hearing, you pointed out the need for improvement in the awareness of our coastal land loss problem and the fact that most of the Louisiana coastal wetlands are in private ownership. This fact can not be stressed enough! Without more encouragement to the private sector, less and less attention is going to be given to the problem of coastal land loss and the public will be the major loser. Secretary Van Sickle used a color slide in her testimony that was prepared by the National Marine Fisheries Service and which depicted that as coastal erosion goes unchecked, fisheries production will collapse at some point in the near future.

Some encouragement to the private sector is to be found in pending legislation before the Congress, however, the private sector is not given the due process of having input into the programs to save their lands beyond that provided to the general public! This must be changed! A very similar situation existed with regard to the Endangered Species Act as it applied to the American Alligator in Louisiana. If the Louisiana Department of Wildlife and Fisheries had not been thorough in it's research and management programs and had not had aggressive State and Congressional leadership to support the Department positions, there is no doubt that the landowners upon who's property these animals are produced would not have been given the right to harvest the surplus animals. This source of income is very important to landowners along the Louisiana and Texas coast today.

Legislation introduced by Senator Mitchell and cited as the North American Wetlands Conservation Act, holds numerous avenues of encouragement for the private sector, but much of this legislation is directed toward acquisition of wetlands by Federal or State natural resource agencies. Having the ownership of wetlands in the hands of the State or Federal government is no assurance of having a viable wetlands management program. Even Senator Breaux's, S.630 falls short of providing assurance to the private wetland owners that they will have any degree of influence in a long range plan to restore coastal Louisiana and still be able to use their lands for production of oil and gas, as well as renewable natural resources.

HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION
SUBCOMMITTEE ON WATER RESOURCES

In conclusion, I agree with you in that while the Congress can pass legislation to protect wetlands, it will be the effort of the private sector working in harmony with the Federal and State natural resource agencies that will determine the long range outcome of coastal protection. Regulations developed to accomplish this goal must be permissive and not prohibitive. In order to accomplish this, a representative from the Louisiana Landowners Association may be the proper approach to assure that the interest of the private sector is protected.

I thank you, Congressman Hayes and other members of the Committee, as well as Senator Breaux and Congressman Tauzin, for the excellent hearing and the opportunity to have my views included in the record.

Sincerely yours,

Allan B. Ensminger

Allan B. Ensminger

ABE/me

STATEMENT

SUBMITTED BY JEFFERSON PARISH, LOUISIANA

TO

SUBCOMMITTEE ON WATER RESOURCES
HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION

Hearing On

Louisiana Coastal Wetlands along the Gulf of Mexico

Mr. Chairman and Members of the Subcommittee:

Thank you for the opportunity for Jefferson Parish to provide written comments to the Subcommittee.

The Parish of Jefferson lies along the Mississippi River immediately upstream from the City of New Orleans, extending from Lake Pontchartrain on the north to the Gulf of Mexico on the south. Our population of approximately 500,000 persons is concentrated within the northernmost 20% of the Parish, and is surrounded by levees. The remaining 80% of Jefferson Parish is sparsely populated, and comprises a transition from swamps to fresh, intermediate, brackish, and salt marshes to the open waters of Barataria Bay to the barrier island of Grand Isle. The economy of our Parish, like so many others in southern Louisiana, depends heavily on water-borne resources including oil and gas activity, commercial and recreational fishing, and transportation.

At your subcommittee hearing in Lake Charles on May 12, 1989, we heard federal and state officials discussing the problems of coastal erosion in Louisiana in terms of the percentage of wetlands lost on a national basis. We heard the same officials discuss the importance of Louisiana coastal wetlands in terms of the percentages of commercial fisheries landings and oil and gas production and conveyance. Jefferson Parish, speaking for other coastal parishes of Louisiana, feels that abstract percentages do not adequately reflect national concern regarding this issue. The buffering effects that our wetlands provide protect our inhabited regions from the devastating effects of hurricanes. Jefferson Parish is our home. Our home is being washed away. Our culture, our economy, and our way of life are slowly and steadily being destroyed largely because of the results of activities of national importance. Eighty percent of our area will be converted into mud flats and open water if timely actions are not forthcoming.

We are concerned that local interests are not being considered seriously by federal and state officials; it appears to us at the local level that state and federal economic interests are weighed more heavily than local interests in protecting and preserving our home parish. We will address each of these programs in some degree of detail.

Coastal Zone Management

On the local level the Coastal Zone Management Act was essentially a land use planning program. Certain areas would be designated for continued development; other wetlands areas would be managed according to uses and goals. The purpose of developing a CZM plan was to reach a consensus by local, state, and federal officials on the management of wetlands.

Approximately eight years were required for the approval of the Jefferson Parish program. Our original plan was modified and remodified according to the desires of reviewers at state and federal levels. We were advised that unless we submitted to the changes recommended by officials, our plan would not be approved. Without approval, our ability to receive various federal and state grants would be in jeopardy, and our comments on Coastal Use permits would carry less weight. To accommodate the reviewing officials, Jefferson Parish seems to have relinquished all local control on oil and gas activities; such activities were judged by the state and federal agencies not to be issues of "local concern".

Our approved plan detailed some portions of the Parish as designated for future development. Some of this land, which is within leveed and drained areas remains classified as "wetlands" because of the types of vegetation present. State and federal coastal management officials approved the plan for our developing this land. Other federal agencies must approve must approve development activities until such time as the drainage and subsequent drying of the area changes the vegetation type. The Section 404 process remains in effect, and it is possible that 404 permits may not be issued for development. Thus it appears, therefore, that not only are there differences between management strategies among federal agencies, but apparent conflicts among federal programs.

Section 404/Section 10 Process

Section 404 of the Clean Water Act controls the filling in of wetlands. Section 10 of the Rivers and Harbors Act controls dredging.

Although Jefferson Parish is invited to comment on the issuance of those permits, when those comments are relative to oil and gas activity, our comments are virtually ignored. We do not want drilling rigs placed indiscriminately in the more sensitive waters and wetlands of Jefferson Parish. We do not want additional canals aggravating our problems of saltwater intrusion and land loss. We do not want discharges of brine and drilling fluids providing additional damage to our marshes and fisheries. We do not want abandoned structures littering our landscape and creating hazards to navigation and commercial fishing. We feel that pipeline corridors and specified drilling areas with tight controls are warranted to reduce erosion. The state and federal agencies, however, appear to place primary interest in the economic considerations of the oil companies; directional drilling and increased pipeline length to reach corridors are more expensive. We gave up our control over these activities in order to obtain approval of our CZM program.

Federal Projects

The Davis Pond Freshwater Diversion Project would have a positive effect on reducing saltwater intrusion into the Barataria estuarine complex. There are, however, concerns expressed by representatives of the oyster industry that are quite valid. The Corps of Engineers proposes to regulate the discharge of freshwater from the Mississippi River in order to attempt to maintain a line of a certain salinity at a particular area in order to prevent highly saline waters from reaching marshes and swamps sensitive to saltwater. Oyster growers are concerned that because of tidal and wind influences, the oyster-growing waters would be subject to more rapid variations in salinity than are now experienced; rapid fluctuations in salinity increase mortality rates of oysters. We do not feel that the federal government has adequately addressed these concerns by the oyster industry, or proposed means to reduce rapid salinity changes in sensitive areas.

The diversion of freshwater from the Davis Pond structure is not the sole answer to saltwater intrusion, but should be viewed as only a part of an overall management scheme. Additional diversions and introductions of sediment are necessary to correct the problems. In the past the marshes and islands were physical barriers to the introduction of saltwater during tidal flows. Because of erosion, dredging, subsidence, and a lack of replenishing sediments, these physical barriers have deteriorated to the extent that a hydraulic barrier in the form of a freshwater diversion has become necessary.

The state and federal governments have collaborated in a project to restore the integrity of Grand Isle, one of the barrier islands at the southern end of Barataria Bay. This project is most welcome, not only to protect the residents of Grand Isle, but to protect wetlands farther to the north. The barrier islands are examples of physical barriers to saltwater intrusion, and their maintenance is of utmost importance. It is our opinion that the maintenance and restoration of other barrier islands along the Louisiana coast should be implemented. Sediments from the Mississippi River, which were the primary source of natural replenishment of sand to the barrier islands, are now channeled over the edge of the continental shelf and into the depths of the Gulf of Mexico. This represents a great wastes of natural resources and the principal cause of wetlands loss in Louisiana. Sediment diversions to facilitate barrier island and marsh replenishment should be undertaken at the earliest possible opportunity.

Missions of Federal Agencies

The testimony at the Subcommittee Hearing on May 12, 1989, provided some insight into the philosophies of various federal agencies which have jurisdiction over coastal activities. It is the opinion of Jefferson Parish that these missions often conflict with the objectives of controlling coastal erosion.

The U.S. Army Corps of Engineers has a primary mission of navigation and flood control. These missions, as carried out, have greatly accelerated land loss in southeastern Louisiana. Jefferson Parish agrees with the provisions of the bill introduced by Sen. John Breaux and others that coequal to navigation and flood control would be coastal restoration and wetlands preservation. Additionally, the Corps of Engineers should be required to provide corrective action for unforeseen adverse impacts due to Corps projects.

The U.S. Fish and Wildlife Service and the National Marine Fisheries Service have as their primary missions the protection and preservation of habitats for fisheries and for wildlife. While Jefferson Parish cannot object to those missions, they sometimes conflict with the objectives of marsh restoration and maintenance. Both agencies testified at the Subcommittee Hearing of May 12, 1989, that their interests involve the creation and maintenance of "quality habitats". It has been our experience that the National Marine Fisheries Service occasionally prefers to allow a subsided marsh to remain as open water rather than to allow the deposition of dredged materials to reclaim the marsh. Both NMFS and USFWS appear to believe that unless a restoration project results in a marsh of high "quality", it is undesirable. Jefferson Parish believes that perhaps "quantity", hydrology, and erosion should be considered also. A landowner may not be able to afford all the elements necessary to provide for a "quality" restoration, but he should be allowed reclaim lost land. In some instances it may even be preferable to allow private development of wetlands by the landowner rather than to allow wetlands to be destroyed through erosion or subsidence. Activities that create, restore, or preserve wetlands function to retard saltwater intrusion and should be encouraged. Both the National Marine Fisheries Service and the Fish and Wildlife Service, as well as other federal agencies, should have their primary missions modified. The reclamation of wetlands from open waters should be given a high priority. The form of management, which remains subject to some conjecture, for the preservation of a wetlands is less important than the fact that management will be undertaken.

Conclusions and Summary of Recommendations

By far, the greatest causes of coastal erosion in southeastern Louisiana were projects performed by the U.S. Army Corps of Engineers. While Mississippi River levees in inhabited areas are necessary for flood control and must be maintained and mitigated by freshwater diversions, levees along the unpopulated lower reaches of the Mississippi River are not for flood control. The adverse impacts of those levees, the restriction of sediments and fresh waters, far outweigh any benefits. The Corps of Engineers should take immediate action to initiate the removal of artificial levees downstream from Empire, Louisiana, and to reestablish Mississippi River distributaries. This action could allow for the near-shore mixing of fresh and salt water thereby reducing the intrusion of high salinity waters, provide nutrients and sediments for the creation of new marshes, and provide a source of sediments that will replenish barrier islands.

Specific recommendations for management of coastal Louisiana include:

1. Provide a mechanism for local input into management decisions. The local population is far more familiar with local conditions and problems. Any preparation of priority lists should include persons with a knowledge of local conditions. Cause-and-effect relationships are much more valid when persons who have observed those causes and effects on a frequent basis are consulted.

2. Reevaluate the effectiveness of the Coastal Zone Management Program. When such a national program requires that local governments relinquish control over land use in order to remain eligible for federal assistance grants, it may be undesirable to maintain that program. At the very least, local jurisdictions should be allowed to be more restrictive than federal or state standards, as is the case with most other federal programs.

3. Provide for more local government input into the Section 404/Section 10 process. Commercial oil and gas interests should not be granted priority by state and federal agencies over the needs of the local population to reduce wetlands loss and to promote multiple uses in local waters and wetlands.

4. Promote the deposition of dredged material by the Corps of Engineers in subsided wetlands. Offshore disposal should be prohibited.

5. Provide a commitment to the preservation of barrier islands because of their importance as physical barriers to saltwater intrusion.

6. Complete the proposed freshwater diversion structures at the earliest possible opportunity.

7. Modify the missions of federal agencies to promote the reclamation of subsided wetlands and the management of threatened wetlands.

8. Require no net loss of wetlands that may be caused by development, perhaps by means of appropriate combinations of the following:
    a. mitigation to reduce impacts of projects.
    b. compensation for unavoidable loss of natural resources by land owners and harvesters of renewable resources.
    c. protection of wetlands areas from erosion.
    d. restoration of wetlands previously lost to dredging, erosion, filling, or subsidence.
    e. enhancement of existing wetlands productivity.
    f. application of mitigation banked credits.

9. If EPA and USACE are brought into the process described in the Senate bill, Coastal Zone Management (NOAA) should also be included to provide for an improved permitting system, rather than create another permitting authority. USFWS and NMFS should also be included.

10. Unintentional adverse impacts on wetlands caused by state and/or federal projects should be reviewed by a technical task force. Corrective action/mitigation and correction of those impacts should be addressed in conservation/restoration plans.

11. If mitigation banking is to be developed, such projects should be retained within the parish (or at least the basin) in which the project is developed. Banking projects should be performed preferably at the project site or on public lands to assure maintenance and/or management of the mitigation project.

LAFOURCHE PARISH COUNCIL
VERNON F. GALLIANO, President

May 11, 1989

Mr. Henry Nowak
Chairman of Subcommittee on Water
Resources
2165 Rayburn HOB
Washington, D.C. 20515

Dear Mr. Nowak:

The consequences of continued, unabated coastal land loss in Louisiana will create not only local problems but problems of national and possibly international interests as well. It is critical that our Nation's leaders understand the absolute importance of Louisiana's estuaries and what can be done to insure their protection and preservation.

Early settlers of Louisiana realized that marshlands and swamps held incredible numbers of game and fish populations. Applied scientists later documented that coastal wetlands serve as the nursery grounds for a myriad of marine organisms. In fact, over ninety species of finfish in the Gulf of Mexico are marsh dependent for their life cycles. Many of these estuarine dependent species make up the major part of the diets of predators near and at the top of the food chain (i.e. marlins and tuna). Continued degradation of estuaries will inevitably translate into smaller populations of most species. Louisiana as well as Texas, Mississippi, Alabama, and Florida will be affected. Consideration must be given to the economic impact in terms of the loss of billions of dollars a year to commercial and recreational interests.

Marshes in Louisiana are the wintering grounds for 40% of the nation's migrating waterfowl. Plain and simple, less habitat means fewer ducks. Last year the U.S. Fish and Wildlife Service reduced the

Mr. Henry Nowak
Page 2
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bag limits on ducks because of dwindling stocks. Will the day come when hunters up and down the Mississippi flyway remember the thrill of calling birds into the decoys as only a memory?

What can you as national leaders do to address our problem?

1. Financial assistance is paramount. There are dozens of proposed Federal, State, and Local projects which can be implemented with anticipation of immediate, positive effects.

2. Congressional action is needed to elevate the importance of Louisiana's marshes and mandate the U.S. Army Corps of Engineers to deal with the problem as equally as they are mandated to address navigation and flood control.

3. Additional Congressional action is needed to set up a meaningful incentive program for landowners. Tax breaks should be given to landowners who use private funds on approved, corrective wetland measures. The U.S. Soil Conservation Service would be the ideal agency to be involved and administer this program.

The loss of America's greatest expanse of coastal wetlands is at stake. Time is becoming more and more critical. Immediate action is needed. Your attention to this matter is respectfully requested.

Thank you for the opportunity to submit these comments.

Sincerely,

LAFOURCHE PARISH COUNCIL

Ed Fike
Coastal Zone Management
Coordinator

THE STATUS OF OUR NATION'S WETLANDS AND LAWS RELATED THERETO

MONDAY, MAY 15, 1989

House of Representatives,
Subcommittee on Water Resources,
Committee on Public Works and Transportation,
Port Lavaca, TX.

The subcommittee met, pursuant to notice, in Port Lavaca, Texas, Hon. Henry Nowak (chairman to the subcommittee) presiding.

Present: Representatives Laughlin and Hancock.

Mr. **Laughlin**. I'm Greg Laughlin, the Congressman from the 14th District and I certainly welcome all of you here and am proud that you helped bring this weather in that's dumping some much needed rain. I was telling Chairman Nowak yesterday that I visited with some farmers and ranchers earlier in the day who said we really need rain and Henry said well you bring the Water Resources Subcommittee and Public Works and Transportation Committee to the 14th District and you get rain. So, Mr. Chairman, we thank you. But welcome to this Water Resources hearing, we want to thank the Calhoun County Commissioner's Court, Judge Hernandez and the County Commissioners for helping us arrange the use of this facility.

I want to introduce the members of our Subcommittee who are here. Chairman of the Subcommittee, Henry Nowak of Buffalo, New York, and our ranking Republican Congressman here today, Mel Hancock, who was elected the same day I was from Missouri. Those are the members that were here, Arlan Stangeland, the ranking Republican on the Committee was due to be here and he had some conflicts develop.

We look forward to having a productive meeting and I thank all of you for being here. Mr. Chairman.

Mr. **Nowak**. Greg, thank you very much and I'd also like to welcome everyone here.

This morning, the Subcommittee on Water Resources of the Committee on Public Works and Transportation continues a series of hearings concerning the status of our nation's wetlands and laws related thereto. The Subcommittee is conducting a comprehensive overview of our nation's valuable wetlands resources, both along our coasts and inland. The Subcommittee previously conducted hearings at which we received testimony from the federal agencies concerning wetlands programs under their jurisdiction and representatives of the National Wetlands Policy Forum of the Conservation Foundation. We've also conducted field hearings in Minnesota concerning wetlands and issues related to agriculture. And this past Friday we visited—conducted a hearing concerning the enormous wetland losses which are occurring along Louisiana's Gulf Coast. And at today's hearing we will continue to receive information of the varied values which wetlands provide and the diverse causes of wetland losses and proposals for the amelioration of these losses.

Before we begin, I especially would like to thank Congressman Greg Laughlin who approached me much earlier this year to explain the serious problems that we're having and are affecting the Texas Gulf Coast and at whose request we are here today. I know from my discussions with your Congressman, that water resource issues are very important to him and I look forward to working with him in Congress to address the needs of both his district and the nation as well.

At today's hearing we will receive testimony from a wide variety of witnesses knowledgeable about programs affecting the Texas Gulf Coast.

Before we begin with our first witness, let me yield to the ranking Republican member of the Subcommittee, Congressman Mel Hancock of Missouri for whatever opening remarks he would like to make. Thank you.

Mr. **Hancock**. Thank you very much, Mr. Chairman. Last Friday, the Water Resources Subcommittee was having a full day of hearings on the coastal wetland problems in Louisiana. Today, we continue our examination of wetland losses and possible solutions with emphasis on Texas' unique problems.

Before I go further, Mr. Chairman, let me commend you and our host, Congressman Greg Laughlin, for your hard work and sincere interest in holding this hearing. By gathering valuable information in the field and visiting specific areas such as Port Lavaca, we make our job in Washington much easier. We'll be able to address comprehensive wetland legislation with a better understanding of regional and local issues.

And Texas Gulf Coast certainly has its own unique problems and conditions. For example, in recent decades rising sea levels have inundated the Texas wetlands in response to land subsidence and reduced sediment supply.

Even with its uniqueness, Mr. Chairman, Texas presents a lot of the same challenges we're finding nationwide. Increasingly people are rediscovering wetlands values while learning about their rapid decline and degradation. Here, as well as in the Mid-West where I'm from, we're having to face difficult choices between wetlands preservations and sometimes conflicting but beneficial activities such as farming, development and energy exploration. We need to keep all of these natural and manmade factors in mind as we search for progressive, but realistic solutions.

With that, Mr. Chairman, let me close so that you can get to the most important business at hand. Thank you.

Mr. **Nowak**. Thank you very much and now we yield to Congressman Laughlin for any opening remarks he would like to make at this point.

Mr. **Laughlin**. Thank you, Mr. Chairman, I want to thank you for the opportunity to hold this hearing in the 14th Congressional District of Texas. Today we intend to explore the important aspects of our nation's wetlands and what needs to be done to correct the loss of this land with such an ordinate, unique, biological function.

I would also like to mention that in addition to the wetland erosion, this Congressional District has two other very pressing problems that need to be addressed. Both of those are in Matagorda County and involve land that was included in the Cultural Barrier Resources Act and the other is the erosion on the Sergent Beach area of the Intracoastal Canal. Both of those problems are being addressed and we will be having additional hearings or meetings in Matagorda County on those. And I've visited with some of the people this morning and want them to know that I'm aware of those problems and will continue to focus on those. While this hearing today will not focus on those problems, we in Matagorda County are very much aware of it.

Regarding the wetlands, we have lost more than half of the wetlands which existed when this nation was created. Nearly one hundred million acres of wetlands has been converted to other uses. These losses come at very high costs. Wetlands provide highly effective natural flood control by serving as floodways and flood storage areas. By moderating the impact of storm tides and waves, they would reduce short-line erosion. The wetlands also serve critical biological functions by acting as a nursery and spawning areas and serving as the base of important food chains. They play essential roles in the production of fish and shellfish and wetlands are critical to the massive annual migration of ducks, geese, and other waterfowl. They are areas of extremely high productivity, producing acre per acre five times the bio mass of a corn field for a wide variety of species dependent upon them for their survival. Despite their enormous value, as a nation we are losing wetlands at an unacceptably high rate. Even under existing regulatory programs, we are currently losing over four hundred and fifty thousand acres per year from man-made or national causes. Clearly, something has to be done to reverse this trend. We have a challenge before us to begin to explore alternative regulatory laws that will consider all competing needs of our society.

Mr. Chairman, that concludes my remarks. I look forward to the hearing today.

Mr. **Nowak**. Thank you very much. We'll now turn to our first panel of witnesses and they come from a field of academic and other research groups that have looked at this problem and really brought to bear an awful lot of research effort over the years.

I want to call to the table, Bob Morton, who's a Professor, Bureau of Economic Geology, University of Texas at Austin; Bob Nailon, who's a County Extension Service official; John Rappole, who's a Professor at Texas A&I Clayburg; Louis Sage, who is with the Academy of Natural Sciences, if he'll come forward; and, Robert Keith of E.I. Dupont & Company. Are they here? Do you want to come up and take seats and then we'll take the testimony in the order that I read, and we'll turn first to Professor Morton from the University of Texas at Austin.

I might just say to all the witnesses, we have your statements that have been submitted and they will all in their totality become part of the record and we'll let you proceed and either summarize those remarks or to revise or extend anything that you have already submitted. And I'll leave that to your discretion. Professor Morton.

TESTIMONY OF A PANEL: PROF. BOB MORTON, SENIOR RESEARCH SCIENTIST, BUREAU OF ECONOMIC GEOLOGY, UNIVERSITY OF TEXAS AT AUSTIN; BOB NAILON, COUNTY MARINE EXTENSION AGENT FOR CHAMBERS AND HARRIS COUNTIES; PROF. JOHN RAPPOLE, RESEARCH SCIENTIST, WILDLIFE INSTITUTE, TEXAS A&I UNIVERSITY, KINGSVILLE, TX; DR. LOUIS SAGE, ACADEMY OF NATURAL SCIENCE; AND ROBERT KEITH, E.I. DU PONT CO.

Mr. MORTON. Thank you. Mr. Chairman, and committee members, my name is Bob Morton. I'm a Senior Research Scientist at the University of Texas at Austin Bureau of Economic Geology. The Bureau is a research incumbent of the University. We serve as a state geological survey in Texas and in that capacity we've been mapping the wetlands in Texas, studying their changes for the past two decades.

I'm hoping we'll be able to get this slide-projector set up because I have brought some slides to illustrate some of the changes in the wetlands. Principally, what our interests are are the physical factors involved in the wetland's changes. Both those natural causes and the human activities that tend to either alter or to destroy the wetlands. And so what I'll be doing is showing some of the examples. Statewide there are actually three different areas within the state of Texas where wetlands are concentrated. The one that is perhaps the best known would be along Intracoastal zone, much like the wetlands that you all have heard about perhaps over in Louisiana. We have that same settling, the same kind of problems that exist in Louisiana. But we also have inland wetlands as well. And they tend to be concentrated along some of the river bottoms. In other words, we have the forest and those things and the swamps that are along the major stream courses. And then up in the high plains, we have a fairly unique type of wetland setting, those of Playa Lakes, which you don't find in other areas. So the Playa Lakes are important because they serve the migratory species, the waterfowls in Central Flyway and of course they'll winter in Texas in some areas so those Playa Lakes are very critical to that. Those areas are being modified in some instances with agricultural practices and so in places we have these conflicting demands on the wetlands, both their preservation and their utilization and I think one of the things that we need to examine of course would be those policies that tend to promote or encourage the modification, and in some cases, the losses of the wetlands. In the case of the bottomlands, some of those flatlands are being lost with inundation. In other words, if we develop surface water and impoundment, build dams and reservoirs, they tend to flood those areas and of course timber practices. Some of the timber production reduces the number of wetlands there. In the coastal area, about a third of those wetlands have been lost just between the 1950's and the 1970's. So it's a critical issue as the Congressman said before, even more wetlands were lost before the National Wetland Inventory demonstrated the severity of the problem. And so even since that time, obviously additional wetlands have been lost.

The national factors that we tend to concentrate on that involve the wetlands lost would be subsidence. Again you've heard about that in your trip to Louisiana, but in this sense I'm gonna restrict it to really the surface of the marshes and the wetlands sinking relative to the water level. So that would be a case where it's a natural process and the cause of the reduction in sediment supply from the major rivers that empty into our bays and into the Gulf of Mexico then the subsidence occurs in areas that are vast wetlands are converted then to open water and that wetland is lost.

The second factor would be the relative rise in sea level. And of course this is a much broader issue and it's related again to suiting of the land's surface, but in a much larger scale. The entire northern part of the Gulf of Mexico is subsiding and all the tide gauges along the Texas coast and in Louisiana illustrate that relative rise in sea level. So we don't have to wait for the greenhouse effect. We're already experiencing that relative rise and of course with the predictions about the greenhouse effect and the global warming of the atmosphere which would cause the thermal expansion of the ocean and perhaps melt into the glaciers. And that simply means that that relative rise in sea level is going to be greater in the future than it is right now and will then accelerate the losses in wetlands that are associated with that relative rise in sea level.

So our concerns for the future in trying to develop predictive models that will allow us to somehow consider the past, see where we are, and then predict where the wetland's losses will occur if indeed the greenhouse effect manifests itself. I think that there's common agreement that there will be some effect. I think argument has to do with the rate of rise in sea level and therefore the difficulty in trying to quantify what those wetland's loss would be in the future, that would be attributable to the greenhouse effect.

One interesting thing about Texas, is that we have a climatic gradient that is unlike that perhaps in other states. If you take a look at the annual rainfall and then the annual evaporation, you'll see the contours are essentially north—south in the state so that as we travel from east to west, we're crossing those gradients and so in the eastern part of the state, will have very high rainfall and low evaporation which is similar to the situation in Louisiana. As we progress farther west though and we pass through about the central part of the state, there's a balance between the evaporation rates and the annual precipitation to the extent that as we go farther west then there's much higher evaporation, much lower annual rainfall, and of course we're in the desert southwest then so in far west Texas, it's a desert climate. The importance of that setting is that those areas west of the line where there's essentially a balance between annual rainfall and evaporation, those areas are much more effected by climatic changes. And that would include prolonged periods of low rainfall, droughts, and then again our concern for the future if there may be some climatic changes, some warming and drying trends, that would then decrease naturally, these wetland areas.

Well, what I'm trying to do there without the slides is to summarize very quickly the natural causes of wetlands loss. We can add to that of course coastal erosion and that has to do with the waves and the currents gnawing away at our shorelines, along the bays, estuaries, lagoons, and the barrier islands. The—and that again is the natural process and we see that accelerating through time as well related again to relative rise in sea level and reductions in sediment supply.

So I think that what we need to look at next would be those human alterations, where some of the factors that we find are responsible for changes in wetland areas that aren't attributable then to these natural causes. And again, there are a variety of activities that we see being dredging and filling the wetlands includes surface water impoundments, there are areas where reclamation projects are going on, construction, and even the discharge of pollutants which alters the water quality and cause again the degradation of the wetlands. So there are any number of situations where that goes on and of course there's usually a balance or some sort of a trade off. In other words, we have these economic justifications for performing those various activities and the wetlands are seen then in a different light. That is that that area of land can be used for something else and that the economic justification outweighs the loss of the wetlands.

Despite the fact that the organization that I am employed by has the term 'Economic' in it, we actually don't get into the dollars and cents and so there will be other people here perhaps who can address those issues better than I can in terms of what are the trade offs between utilization of the wetlands and their disruption perhaps in some situations. Certainly again, in the coastal zone we see dredging and filling as a very common activity and the interesting thing about that is we find that dredge material can be placed directly on the wetland so that's a direct loss.

We also see that the wetlands are removed directly through navigation projects or residential and commercial development. In other words, entire sub-divisions can be built on the wetlands. We find that resource extraction also tends to remove wetlands. In this case it would be mining of mineral resources, sand and gravel, and shell and there are any number of examples where that occurs. We also see where entire industrial complexes are constructed on the wetlands, where large holding ponds are constructed and again that takes the wetlands out of production. And of course they're very vital to the fishery industries in the coastal area. So again there are a number of activities like that involving human activities that tend to reduce the total number of acres of wetlands. And remember this is at a time now where the competing demands are such that well, there are declining numbers of wetlands and so you really have to very closely look at the trade off or the balance between these.

I realize that the main focus of this particular hearing has to do with the wetland's loss but I think I'd be remiss if I didn't mention the broader issue of land loss in general. And in particular in the context of Public Works and Transportation, again involving human activity because of reservoirs that are built on the rivers that tend to block sediment from moving downstream and therefore diminishing the amount of material that reaches the bays and the estuaries and therefore diminishes the amount of wetlands that can be constructed. That also blocks the sand of course that is delivered to our Gulf beaches and so that becomes again a part of the problem of shoreline erosion. The same is true with the very long jetties that extend out into the Gulf of Mexico, an integral and very vital part of the transportation network and with the major harbors that are so vital to the economy of our state and nation. But nevertheless, they've become part of the problem in terms of coastal erosion because they block the lateral transport of sand from one compartment to another.

And so I would leave you simply with two thoughts. One is that there are these competing demands for the wetlands at a time when they're rapidly declining. We are concerned about the relative rise in sea level in the future because we're already experiencing a relative rise in sea level even without the greenhouse effect. And lastly then we have the apparent conflicting policies from various governmental agencies that on one hand tend to conserve the wetlands and on the other hand tend to try to utilize them to their maximum extent. Even to the extent of eliminating them. Thank you.

Mr. Nowak. Thank you very much. We will reserve our questions until all the panel members have spoken. And now here's Bob Nailon who represents the County Extension Service.

Mr. Nailon. Chairman Nowak, Congressman Laughlin, distinguished ladies and gentlemen, my name is Bob Nailon. I'm a County Marine Extension Agent for Chambers and Harris Counties. I work through the Texas A&M University Sea Grant College Program at the Texas Agricultural Extension Service, Chambers County and Harris County. I have a series of slides that I would like to bring forth that follows up on a point that—several points that Dr. Morton made and also Congressman Laughlin made and if you'll allow me about a minute to get everything set up well we'll go ahead and proceed from there.

[Whereupon a slide presentation is presented.]

Ladies and Gentlemen, this piece of Texas right here no longer exists. This is along the north shoreline of east Galveston Bay, working very closely with the Soil Conservation Service, the Texas A&M University Sea Grant Program and the Extension Service on a wetlands issue and shoreline erosion project on the north shoreline of east Galveston Bay. There's been several facts and figures and discussion about the extent of the wetlands loss all along the Texas Coast and it is a very real problem. Since between the wetland surveys of 1956 and 1979, Galveston Bay alone lost ninety-five percent of its submerged aquatic vegetation as well as sixteen percent of the emergent vegetation, which is vital to the wetlands. We have a series of slides here depicting the shoreline erosion problem and loss of wetlands. On the Texas coast we have approximately fourteen hundred and thirty miles of tidal lands and shoreline. Sixty percent of that figure is subject to erosion rates at three feet or more per year and the other remaining forty percent are subject to erosion rates at one to two feet per year. So we're looking at a very significant problem. It's a situation where the private efforts are going to be very much a key to the success of restoring wetlands as well as the cooperative efforts between state and federal and local agencies.

The Galveston Bay system, many of you are very familiar with it, is one of the most important estuary, it is the most important estuary as far as sea food production on the Texas coast. It was recently named as one of the NOAA/EPA, national estuaries in the National Estuary Program. It is the seventh largest estuary in the United States and the third largest in population. So it's a very valuable resource not only to the commercial fishing industries, sport fishing industry and all the various marine resource user groups, but it certainly is a boost to our economy in the Chambers, Harris, Brazoria, and Galveston County areas. This is not a very pretty picture, but it is an effort that one of the landowners came to us. We're involved in public education and problem solving in marine resource issues. This landowner, in a desperate attempt to try to stop shoreline erosion, and he was forced to move roads back, his fences back, he was paying taxes on land that no longer exists. This is a series of a couple of slides here that showed the graphic extent of the problem. One landowner in the northern part of Trinity Bay, between a wetland survey in 1935 and one taken again in 1985, had lost some 386 acres of land. He took this report from a licensed surveyor, took it down to the tax appraiser's office, got his taxes adjusted, it was approximately a hundred thousand dollars worth of land and the taxable evaluation on it. So it is a very serious problem and something that as Dr. Morton mentioned as a contributing factor to a lot of different coastal problems.

The traditional methods of shoreline erosion as many of you know are bulk-heading; rock riff-raf, placement of structures, tires and so forth all along the coast, but when you're talking about coastal property owners with large land holdings that have in the neighborhood of one, to two, to three miles of shoreline, if you look at something like this that's maybe a hundred and fifty dollars a foot in some cases, it's just not economically feasible. So you've got to come up with something that is a possible solution and also that is cost effective. That's the whole key to it, if you don't have something that's cost effective that the people can protect their breakfront shoreline with, we're not talking about the Gulf here, we're talking about the inside bays and tidal estuaries, it's a really serious problem. The vegetation can solve the problem. The smooth cordgrass which is pictured here is a grass that has been used to a lot of extent all over the country, particularly in the Gulf and on the Atlantic shores. It's a plant that grows uniquely in the Intertidal zone between low tide and high tide, when you get a colony of this stuff that grows fairly rapidly then you have a situation where the wave energy can be absorbed before it actually hits the actual shoreline. So you have here a natural wave barrier or a wave energy absorber here that absorbs the energy of the wave and stops it. This is the grass itself, many of you in this room are very familiar with it, it's range, salinity range, is generally between three and fifteen parts per thousand, there's no commercial seed source available or anything of this nature or very few sources on the coastal areas in the Gulf coast. So you're looking at something that has to be transplanted and care has to be taken with this plant in order to get it to propagate and spread. It spreads by rise zones and it does grow readily in the Intertidal zone in coastal waters in the proper salinity range.

In this project we started out very early we made a lot of initial mistakes. We didn't have—we planted the plants too far apart and so forth, and so we looked at some of the things—one of the things we came up with is we found out we just can not plant this grass without any kind of wave barrier protection. The first thing we tried was used Christmas trees. Used Christmas trees were used as a wave barrier to protect the young transplants while they grew and of course as you might imagine, it's very labor intensive and they're very seasonal. You can only find Christmas trees at certain times of the year. And if you want to try any kind of wave or shoreline erosion vegetated treatment you've got to have something that's available year round. The next thing we tried was the plastic snowfence. Plastic snowfence was about $200.00 for a hundred foot roll so it's something that again you're talking about economics and you got to make it economically feasible. If you look here on the right, it's—yeah, here it's coming more into the picture here, the final thing that we tried is of all things a used cargo parachute, cut up into strips. And we got a source of cargo parachutes from the Texas Surplus Property Agency in Houston, we got them at a relatively cheap price. We can cut this parachute material up and use it as a wave barrier to protect the transplants right after we planted and allow them to grow. This is a cross-section diagram of where the parachutes were placed in relation to where the grass is planted. The grass is planted in the Intertidal zone, the parachutes just seaward of the grass transplants. We hired a lot of part time summer students during the summer to help out with this project. Kids that were—had an interest in the environment and did work out real well. Here's some of our part time students demonstrating the grass planting technique. This is kind of a before and after shot of this particular area. This was the area before treatment. This was the same area one, after one year. And this was the identical area after two years. So as you can see the grass does propagate very fast and does get thick enough to where it does present a good erosion barrier and in some cases has abated the erosion process. One of the other things here that we noticed right off the bat was the sedimentation rates. As the waves began to come into the shore, the sediment filters out and actually settles out in the creeks shoreline and is built up right in the neighborhood of three inches in about an eight month period of time. So we're very excited about that as well. This just kind of demonstrates that area that it has grown up, the sediment actually filters out and adds to the bay bottom. And one of the ideal things that we like to see here is when the grass stand gets established well enough and we can pull the parachute material up and allow the grass to go on its own.

We do have to go through the U.S. Army Corp of Engineers, the General Land Office for easements and permits before we do any kind of work like this. One of the ultimate goals of this joint project is to put an advisory bulletin together to—for local landowners and coastal landowners to be able to utilize this technology all the way up and down the coast because we've had inquiries of this project all the way down to Brownsville and even had calls on it from Quebec from an article in Time Magazine.

Okay. The other thing that we had seen is the water quality problems. We've had some pretty severe turbidity levels in this area and as you might imagine when you have turbid water like this, the sunlight can not penetrate through it to the water column and you have a cloudy water situation, you have no phytoplankton or zooplankton in bloom, and then it directly affects the bottom of the food chain in the marsh, in the estuaries. So that right there will—affects the valuable fishing industry as has already been mentioned earlier this morning. And also it directly affects the oyster industry because if you have a situation where sediment just absolutely just settled out on the oyster reefs, you have a situation that it just clogs the gills and then you begin to lose major reefs. And there's a lot of oyster leases in this area, major leases and they're directly affected. Not only by the situation of shoreline erosion, but there's also a number of other things as Dr. Morton mentioned that contribute to turbid water conditions and so forth, the dredging and that kind of thing.

One of the major benefits and the area that I'm very interested in, of course, is the marine habitat establishment. Smooth cordgrass as one of the major plants in the salt marsh. The salt marsh is one of the very, very valuable resources that we have on the coast for a fish habitat. Fish utilize them not only for feeding and nursery areas, but larvae breeding stages and some organisms and so forth. So you have a situation where they are very valuable and any time you have—the fisheries production is directly affected by wetlands acreage. There's just no other way around it. When you've got wetlands, then you're gonna have fisheries production. Some of the major species that depend upon the marsh that are recreationally important are the red drum, the speckled trout. The fishing—recreational fishing industry is very valuable. As most of you know, tourism is now our number two industry on the coast and we have a big—a lot of our coastal economy depends upon recreational fishing as most of you know very well. And so we do want to try to promote it and you got to have habitat to have recreational or commercial fishing and you got to have commercial and recreational fishing to have some input into your local coastal economy. Blue crab seek these areas for refuge during the times when there in the molt stage. So they are very valuable, the grass beds are very valuable here.

Now this is a slide that depicts the life cycle of the shrimp. The shrimp obviously are a major cash crop here on the Texas coast. It's about twenty-five million dollars worth of economy—it comes into our economy from shrimp. The needed shrimp lays the eggs in the offshore waters, the eggs and larvae, their early development stages, will migrate back into the estuary in nutrient rich waters where they grow and mature and then go back offshore and spawn. And this is the life cycle on the blue crab, the red drum and several other commercial and recreational important species of fish and shellfish. In this study we noticed it's not important to really look at all the numbers, but between these two tables there was—we had a study where we were monitoring relative abundance, there were six times more organisms caught in the area around the marsh grasses, cordgrass colonies than on the bare shoreline. So here again it's just one of the things that was mentioned early on.

The wetlands obviously are of tremendous importance. One other thing that hasn't been brought up this morning is some of the channelization problems that you have. We do have a lot of channels formed throughout the marsh. And when you have channels then your gonna have saltwater intrusion come up into the marsh and it directly affects the salt loving grasses and so forth and it can directly impact it. So the marshes not only act as a—for shoreline stability but also are very vital in the production of marine ecosystem. We have noticed a problem called Rhizoctonia, it's a fungal infection that affects the floor grass. Many of you may be aware of it and from what we understand from the plant pathologists at Texas A&M, they indicate that this grass—this fungus will proliferate in areas where there is very high nitrate levels. Obviously nitrate levels are important for the growth of the plant but they're also important for the growth of this fungus. So what we're doing is propagating some cordgrass in a nursery not only to propagate cordgrass for transplanting purposes and to improve our efforts there, but also to kind of produce some disease resistent strains of this cordgrass that are maybe a little resistent to the fungal infection that can occur. This is some of our nursery that we're trying to propagate some plants. This is one of the areas was planted by the Soil Conservation Service in 1958. This is the reason that we kind of keep going at this because it took thirty years for this area to propagate, but with a little assistance, the Soil Conservation Service had come in and planted its whole north shoreline of east bay and a few plants had taken off and this was basically all that was left. And here is the old shoreline of an area in east bay in 1958. You know there on the right and on the left that has been—all has been accreted since the—when the grass was planted in 1958. So there's about 200 feet there of shoreline that has been added in that length of time. So it is something that we're jointly involved in through the Sea Grant Program, the Texas Agricultural Extension Service, the Marine Advisory Service, which is a cooperative effort between those two programs and also the U.S. Department of Agricultural Soil Conservation Service. I noticed many of the SCS people here today. Eddie is a cooperator on this project.

So at this time, I'd like to go ahead and turn it back over to you Chairman Nowak. Thank you.

Mr. **Nowak**. Thank you very much. And we will now turn to Professor John Rappole. I think maybe we can put the lights back on at that point. You don't have a slide presentation, do you?

Mr. **Rappole**. Chairman Nowak, members of the committee, ladies and gentlemen, good morning. My name is John Rappole. I am currently Research Scientist at the Wildlife Institute, Texas A&I University, Kingsville, Texas, where I've been for the past eight years. My familiarity with coastal wetlands, south Texas and my association with National Marine Fisheries Service as a contact on lower coast in 1982 and '83, and through my own research and that of my students on waterfowl birds and other birds of the species. Research is funded in part by contracts with U.S. Fish and Wildlife Service, grants from the World Wildlife Fund.

Wetland problems in our region can I think be divided into two leading categories. Those related to development along the immediate coast and those associated with the danger of preservations in the wetlands of the water cycle. Both of these present serious threats to our coastal wetlands which in this semi-arid region are particularly fragile and sensitive. I'd like to expand a little bit on Dr. Morton's comments regarding the amount of water that we get here, going south from here as well. Actually about three quarters of Texas' evaporation greatly exceeds precipitation down around regions towards the west. Construction along coastal waters to development is the more dramatic of these problems because of the size and nature of competing interests. Hundreds of these projects are proposed every year along the Texas coast, nibbling away at the remaining wetlands. In addition to these, there are a few major projects proposed each year that take large chunks out of wetlands. Projects like Bakersport, Playa del Rio, Corpus Christi Ship Channel, Brownsville Ship Channel, these have massive potential negative effects on wetlands.

However during my association with the National Marine Fisheries, it seemed to me that a good system was in place for evaluating and where necessary curtailing the effects of any project, large or small, affecting wetlands where the fisheries are dependent on those wetlands. All projects affecting coastal wetlands require a permit from the Corps of Engineers and the way it worked when I was involved was that once a week Corp representatives sat down with representatives from the U.S. Fish and Wildlife Service and National Marine Fisheries and reviewed permit applications. And most of these applications were for small landowners. A person wants to put in a new dock or a sea wall. And most of these were simply approved. But if there was any question concerning a potential impact on the fisheries, whether it was a large project or a small project, National Marine Fisheries would call for a site visit by the contractor. And as I mentioned, I served in that capacity for a couple of years, and I found the system worked well in those cases to protect existing wetlands. In one or two instances as in the case of Bakersport, powerful forces were martialed against the wetlands which were admittedly already degraded because of dumping of Intracoastal spoil which tends to act as a dike in many cases to prevent interchange of water between naturally occurring wetlands and the bay. And those wetlands were lost in any case. Nevertheless, the system was in place and so far as I know still is in place. When all participants did their jobs in good faith and it worked well I've read that—heard that a cut in National Marine Fisheries budget has been suggested and I certainly hope that that is not true. They represent a major force protecting coastal wetlands because they balance the economic arguments of the developers with equally important economic and recreational arguments of sport and commercial fisheries.

The second major threat to wetlands in the region arises from changes in the water cycle. At least in our area in South Texas, as a result primarily of dam construction, arid land irrigation and brush clearing. These procedures cause serious disruptions, they strangle the few remaining recurring areas which require annual inundation for maintenance as well as shutting off for fresh water nutrients and as we've heard before today, a testimony the soil that is important for maintaining the beaches and estuaries.

It has been projected that by mid 1990's every drop of water in the Nueces River system will be committed. A considerable amount of that water goes to fill the dam and leave Corpus Christi to provide water for drinking purposes and recreation for the greater metropolitan area of Corpus. A large portion goes to irrigate watermelon patches and other crops in the inland portion of the Nueces Bay and the Nueces Basin. Similarly, the Brownsville dam proposed for the Rio Grande will complete allocation of all water from that system with inevitable negative facts on the bays and estuaries at the mouth of the river. The water plans of the state of Texas are supposedly designed to alleviate some of these problems as a fully disguised brush clearing program in many of its parts where landowners can have brush removed from overgrown pastures at the expense of taxpayers. And part of the objective of this program is to increase down stream flow, a result that is in fact, intuitively obvious. However, it is also intuitively obvious that the process will greatly increase water lost to evaporation and runoff. So the ground water resources on which so much of the system's productivity depends during the region's frequent droughts are drastically reduced. Such removal of protective cover also causes problems with rapid salinization of exposed soil.

Disruption of the water cycle in our region has a ripple effect that has damaging results throughout the area. Our studies of pintails, a most important sport hunting duck in the Central Flyway, indicated it depends on shell popples for its winter survival. As Dr. Morton mentioned, part of these popple regions is in the Playa Lakes region of the panhandle, and we also have a large pintail population in South Texas. When vegetation is removed from the site, the popples disappear much more rapidly than would otherwise be the case. Pintail numbers are down almost two-thirds over the past ten years. Most of this decline is attributable to the drought on the great plains. But this problem is extremely complex. The disappearance of winter habitat effects populations of these birds as well as loss of breeding areas during a very important wearing area.

I read recently in the Corpus Christi paper that tourism is a three hundred million dollar a year industry for our region. We should remember that these visitors do not come here for our nice malls. They come here because of the environment. The bays, the estuaries, the beach, the ocean, fish, shrimp, birds, and other wildlife. Over two hundred thousand people visit the tiny Santa Anna National Wildlife Refuge, one of the repairing areas that will be severely affected as a result of a lack of inundation along the Rio Grande River. We live in the richest natural area in North America, north of the Tropics, but it's fragile and without considerable care and intelligent water use planning, we can change it into a desert. Thank you.

Mr. **Nowak**. Thank you very much. Now we'll turn to Louis Sage, the Academy of Natural Science.

Mr. **Sage**. Chairman Nowak, Congressman Laughlin, Congressman Hancock, and other guests, I appreciate the opportunity to be able to speak with you about wetlands and the coastal zone in general. I might take just a second to explain why a representative of the Academy of Natural Science might have an interest down here. I head up a large research group that looks at water resources throughout North America and we developed through the last forty years, forty-seven years, a very large database in Texas. So with that, I would continue on. Can I have the lights.

[Whereupon a slide presentation is presented.]

Thank you. I apologize to the rest of you out there who can't see some of these slides.

The program that I would like to speak to today is the program that has been a cooperative study in San Antonio Bay. This study is a voluntary program that has been supported since 1950 by—initially by two industries, DuPont and Union Carbide, to look at the water resources in San Antonio Bay, and particularly the biological resources. This program has continued nearly every year since 1950 and in 1980 those two industries were joined by British Petroleum Chemical as well as Carbon Graphite. The initial program was to look at shrimp/oyster population within——

Mr. Nowak. Would you just withhold, we're gonna try to turn this. These poor people are stretching their necks 'cause they can't see you. And—is that better—because we can see. Turn it more so they can see, part of it is off the screen.

Mr. Sage. You know the old expression a biologist, they can't do any talking without slides, so I apologize for that. As I mentioned the initial program signed in 1950 was to look at the living resources of San Antonio Bay. And I'd like to question that when we talk about Bays or the Coastal Waterway, we're talking about an entire system and not just the water itself, but also it's adjacent wetlands. And since that's the topic of the conversation today, we can't separate the two out. Shrimp as I mentioned is the prime actor in this. Our principal star as you—as it would in the study. This is a slide that shows some of the resources, the economic value of some of the resources as well as on a yearly basis which indicates some of the climatic changes that have occurred as well as changes in the population itself. You'll notice that in the upper left hand corner, shrimp have a very cyclic density or a take per year. If we look at crabs, we can see that they also have shown some cyclic periods. But this is also being driven by the market, the market now for crabs is increasing as some of the other resources have dropped off. In particular, if you look at finfish, you can see the effect of a moratorium, particularly on some of the drum as well as the sea trout. And then over in the corner of oysters, we notice the dramatic increase that occurred in 1982, which you can't see back there unfortunately. Many of the cyclic patterns that we have seen are due to the change in salinity. Particularly in the 1970's or late sixties, early seventies, you see that salinity, which is the saltiness of the water, has dropped off considerably. And this is one of the reasons that the oyster beds that were in the San Antonio Bay dropped off dramatically. If we look at—well I might say that the value of this kind of a program if you might remember that we're talking well over thirty-five years, almost approaching forty years of almost continuous data on some of these surveys. You get a snapshot of the performance of the shrimp to see if there's been long term changes in the shrimp. Actually if we run an analysis of this through these years, there's actually been a slight increase. Very slight, but there has been an increase. And that's for both the white and brown. If we look at the shrimp, we've been looking at the densities for years, we now want to start looking at the habitat requirements, or what are the requirements of these shrimp in order to preserve their densities as well as to perhaps even enhance them if there's some way we might do that. To that end, we've put together a program that's a cooperative program with the National Marine Fisheries Services, Academy of Natural Sciences and the Dolphin Marine Sea Lab to look at habitat requirements for shrimp. Shrimp use the estuary and the grass beds extensively during their juvenile stages which are relevant to the advanced side of the screening. They spawn out in the open waters and then the larvae come into these estuaries and I say use these grasses. This is the arrangement that has been a sampling gear, that has been used by the NOAA of the National Marine Fisheries Service out of Galveston. They went in this strange looking device, if you see what's coming at you sometime you'd better move out of the way because of the way they move it along. But the idea is to bring this near a grass bed, drop that encircling sampler, as you see, they quickly jump on it and it's got a cutting edge and they drive that down into the sediments. And then they proceed and oh, by the way, we lose a lot of scientists this way, but they proceed to then pump out the entire contents of the sampler. That's almost three square meters in size. They pump it out and collect all the various organisms that are there through filters. And what I thought I'd do is show you graphically the comparison between just a clean bottom mud and sand which shows here, you know, blue crab, some juvenile fish, and then compare it with what we got out of salt marsh. And we can see where the difference is quite graphic. In other words, the salt marsh provides a tremendous amount of benefit to these resources both in protection and in terms of nutrition. Because they come into those areas not only to protect themselves, but also to feed. The fisheries for this particular area is quite dramatic. In 1985, in Texas, the economics show that a hundred million pounds of fish, or fisheries, resulted in a hundred sixty-seven million dollars. Which translated if you put a factor of three for other types of economic spin-off, translates to approximately one-half billion dollars at the wholesale level. That's not carried on to retail, restaurants and that type of thing. Of that some eighty-two percent for the shrimp that I was talking about before.

You might recall, that's the entire coast and of that ninety-seven, over ninety-seven percent, is estuary and wetland dependent. Wetlands are very productive. They represent the third greatest productivity of any area on the face of the earth after tropical rainforests and coral reefs. They also represent a cover for some of the wild fowl for those of you who are new, that's a snow goose, I'm not sure if you'll see them here, but this is from the west coast. But you can see the value of these wetlands. I thought that it might be—because we were talking about wetlands and the loss of some of these wetlands, if you take a state like Louisiana, approximately fifty square miles of wetlands are lost per year and that represents eighty percent of all total coastal wetlands lost. So in other words, those areas that are lost more is directed toward these wetlands. In Laguna Madre, this fifteen percent habitat loss in the last twenty years so to get an idea we getting to one percent per year. The Gulf of Mexico produces approximately fifty-five percent of the total U.S. estuary dependent commercial species. So in this area, the wetlands have a—or are a tremendous asset to the region.

I just wanted to quickly mention that it's not only wetlands along the Gulf coast, but we're seeing concerns with coastal areas nationwide. If we look at the change in demographics, we know that the coastal—the U.S. population is increasing by approximately forty-percent, forty-five percent of the U.S. population along within fifty miles of the coast to a projected seventy-five percent in the 21st century. If you take an area like Chesapeake Bay, we've already seen a doubling of the population in thirty years. That's a growth rate that's very difficult to sustain living resources and the quality of life. What it means is we have to make some decisions. The citizens of Texas have to make a decision on what they want their resources to be. Do they want to have the economic developments of development or the economic resource in the—from fisheries and recreational value. Those are questions we have to address.

You may think this is in backwards, but it isn't or upside down, it isn't. I just wanted to point out that an estuary is part of a general system and if the—if we think of a tree and we turn this slide over again, you think of the roots, a lot of the nutrients and other pathways into a tree are through these roots and so that's why I turned this upside down, to understand that the wash out effects have a dramatic effect on not only the estuary, but also on the wetlands. Non-point runoff is a very major problem here in these coastal areas and wetlands. The questions of nutrient runoff, nutrients running off with these wetlands. Wetlands have a tremendous ability to remove compounds such as nitrates of the—there's a process called denitrification that we've been studying in wetlands in Florida and numerous locations on the East Coast, that will remove fifty percent of the nitrogen that we put into the water. It would reduce—it—phosphorous even more, up to as much as eighty percent. So these wetlands have a very important role.

While we talk also about wetlands, we have to talk about ground water. And if we look at the proportion of ground water that feeds some of these estuaries and wetlands, we're talking seventy-two percent in some cases. We have to tie together ground water and surface water as we come up with any new policies. And finally then we also have to talk about ways that we might enhance these fisheries that I've been talking about this morning. We have to understand that if there are pressures that are impinging on the resources, if there are ways that we can enhance their growth, we should do it. Oysters for instance will lay something in the order of ten million eggs, only two to three of those will survive to market size. There are ways now that we are learning with the Sea Grant Program that we can enhance the oyster success rate. Now we're not talking about a lot because we're talking in terms of one-tenth thousandths of one percent, that's not a lot of improvement, but that will double the size of market oysters. We have to look at new strategies such as this. I think primarily because all of us enjoy the wetlands and we recreate in those wetlands and we continually want to encourage others to do it as well. Committee members, we brought some of these little brochures that you might want to take a look at. Thank you very much.

Chairman NOWAK. Thank you very much, Dr. Sage. And now before we get into panel questioning, let's receive the testimony of Robert Keith, E.I. Dupont Company, Mr. Keith.

Mr. KEITH. Chairman Nowak, Congressman Laughlin, Congressman Hancock, it is a privilege for us to be here with you today and to be able to bring Dr. Sage from the Academy of Natural Sciences to you. In speaking today, my comments are very brief. And I represent a segment of the local industrial community. The names on the brochure you got show DuPont, Carbide, Standard Oil Chemical and Airco Carbon. I'm sure you're aware of how unstable alot of the things are in industry and one of those instabilities being the names of companies. Let me point out to you that Standard Oil Chemical is currently known as BP Chemicals and Airco Carbon is Carbon Graphite. We're pleased to have this group of industry to join together in sponsoring the recognition that the stewardship required to protect the environment of the wetlands belongs to all segments of society. We've tried to demonstrate this stewardship by our long standing studies through the Academy. We look forward to continued cooperative efforts both in industry and with agencies in trying to do our part in helping to protect the environment. We thank you.

Mr. NOWAK. Thank you very much, Mr. Keith. We have federal agencies to follow and I think this panel summarized very well the problem in some of the conflicts that are very apparent when one looks at the overall problem of wetlands. This really is a combination of many factors that impact the wetlands. These wetlands and people's economic well-being are in very direct terms totally dependent upon the preservation of the areas. It's not only the conflicts between the environmental community or Ducks Unlimited as we had up in Minnesota, but also between vying groups for some of the precious resource that is known as the wetlands and how they use it. It's very difficult as we are learning through our investigative hearings to disassociate any of the groups with progress in this area.

I guess the real question and problem for us is going to be how do we write a general statute to cover the many different specifics that are out there and affecting the various wetlands. And we've got an in-depth, I think, hearing based record now to go back and start to fill out our total record so we can move forward with the cooperation of the administration to streamline not only the existing clean water program that has a large effect on these wetlands, but also bring in into place some incentive for all of the groups that are especially effected and will be by any legislation we bring forward to try and gain a consensus on the best possible options. Yet we want to leave in the legislation enough flexibility so that it can vary as your problems here are not the same as their having in New Jersey or the Barrier Islands off North Carolina or some of the areas on the west coast in terms of what we've learned about the conflicting economic struggles that you do have here, we have to find a way to get that program moving out there so that the various groups can take advantage of it. And that's gonna be, of course, the real challenge.

We have noted with these hearings that interest has picked up and we get inquiries from different news media and the wetlands issue is becoming an issue not only for those living on the coast, but it's starting to spread throughout the nation. And, one of the great advantages of having a hearing here in Texas is that your viewpoint becomes known and we try to accommodate that of course into those changes which we're looking at and some of which have been recommended here today. Others were recommended by the Conservation Foundation in their overall study. There's no question that the wetlands have been reduced from some two hundred twenty-five million acres to about ninety-nine million acres today. The natural causes are known and some of the human activities that have cause impacts, hopefully can be changed in innovative ways.

We've got a program out there that some have testified to helps the wetlands. If you look at the 404 permit process that has been set out, some have said it's stopping the private sector who owns the vast majority of this land from coming on board with a 'private/public solution'. I guess that is our challenge. And I'm wondering—I'll generally ask this question of the panel, how do we—if there's an effort out there, decide to resolve some of these conflicts and bring about a recommendation to the committee that you see could have a beneficial impact upon the whole known net loss program as the President has set without requiring tremendous amounts of federal funds. If I had the wherewithal of control of the budget I could conceive many new, innovative programs I could put into existence. But that would also be very costly and each one of these programs, even the planting of seeds, which people have seen some results of that today, it's long, it's arduous and it's very expensive. But let me turn to the panel and just ask that type of general question and see what your responses would be.

Mr. **Rappole**. I mentioned earlier Nueces Bay, Corpus Christi Ship Channel, the Brownsville Ship Channel, the Bakersport and so forth, there have always been alternatives that are available. And in many cases it comes down to a question of whether or not you want to spend some more money, essentially up front money or have much higher costs on a long term basis to other industries. So I think that the process as it exists now, essentially where there are competing interests, it allows that an open and public debate to occur and allows some decision to come to the best interest to the community, in most cases.

Mr. **Nowak**. Any others of you would like to comment on that.

Mr. **Morton**. Yes, I have two comments. One is most of the time we're talking about the direct impacts and those are the easiest ones to identify, whether it's dredging and filling or navigation of channelization and so forth, part of perhaps what I wasn't able to get to because I wasn't able to show the slides, are those indirect effects. I think those are the most difficult ones to quantify and that will get into river basin development and things like that. In other words, you're having to try and anticipate what kind of impact that's gonna have on wetlands loss knowing that it isn't a direct one, it's an indirect one. What we are seeing though, and I'll just use this one example in terms of alternate solutions, in the case of sediment supply, which clearly is an important one in the face of the rising sea level, we have to offset that somehow and sediment supply clearly is one of those situations where perhaps we can be a little more innovative in some of those regulations that deal with the disposal of various materials. Perhaps we can look at that in a different way and actually again create new wetlands. I appreciate the fact that there's some problems perhaps in some areas related to the geochemistry of that dredge material and what effect that would have in terms of creating new wetlands. But we've certainly seen some examples where the diking and placement of dredge material has cut off additional sediment supply and overbank flooding and things like that. So you've got a double whammy, you've got the effect of putting the dredge material directly on the wetland or in an adjacent area and cutting off sediment supply and here we've got a supply of sediment that perhaps could be used to construct wetlands area. So perhaps that is an example where we could look at another solution.

Mr. **Nailon**. I think one of the real critical aspects of getting, rehabilitating wetlands and I mentioned it in my talk is the acquisition of public support and looking at the various interest groups, marine interest groups that use the bay and people that have an interest in the environment. People are willing to roll up their sleeves, in my experience, and really get down and try to do something to rehabilitate these wetlands and kind of reverse a situation that seems to be going array. And through the Galveston Bay Foundation which was set up very similarly to the Chesapeake Bay Foundation to—directed to protect the bay. The environmental groups, the public participation and interest is there and if we can kind of somehow coordinate that effort through the state and federal agencies and with the congressional committees, I think that's the key to the whole process.

The other thing I wanted to mention is non-point pollution problems. We touched upon that a little bit today and I recently attended a non-point pollution conference in St. Louis and presented this same information up there. It is a critical problem. It directly impacted Chesapeake Bay, in fact it almost killed off Chesapeake Bay. Some people may argue that it has. And Galveston Bay has not gotten to that particular point, but certainly it has demonstrated its resilience and we do have to address that in some means.

Mr. **Sage**. I would just like to endorse what the last speaker had mentioned. That the public is really the key to providing the catalyst to better planning in this—in preserving these wetlands. And it can be done through a variety of citizen groups and fellow organizations that already exists. It has to come from there. I am actually on the advisory panel for Chesapeake Bay and we didn't get quite far until the citizens were totally galvanized to demand certain things of their local governments. So it doesn't necessarily have to come out of the federal project. But it can be driven back more toward the local. And frankly, I don't believe it will end up costing more, just more economic utilization of the existing funding.

Mr. **Nowak**. One of the questions when we look at those different levels that are operating in this whole area and the citizens groups that can be formed, it's not illegal to do that. It's not illegal for people to donate money to groups that are active in all of these areas. And after that work is done, after the planning is done and the recognition is done, that perhaps there's a tremendous runoff of phosphates in some of the areas and there's some illegal dumping into some of the tributaries in Chesapeake and you try to locate all of that before you look at dredging, as was mentioned by one of our witnesses here. And the Corps of Engineers program could be refocused and still I'm looking for how we made this—get this process, not only open but effective and the layers that we've got to work with here. In Louisiana yesterday, we talked in terms of what the state government would contribute or is contributing. They just had a referendum they had a seven hundred million dollar deficit and they were gonna raise some new taxes and that referendum failed. And now the—not only the planning for their coastal wetlands was in jeopardy, the Corps of New Orleans is very upset because they were gonna use some of that new tax money. And I'm trying to figure out the relative federal role here knowing that the 404 Permit Program that is now operating out there, does open the process, does give points of views that have to be commented on by a different agency. That has worked in some areas. We're still finding, however, that we're losing a lot of wetlands; they are diminishing. And whether it's natural or in combination with some of the human activities, what is out there is not enough. And if the President has come forward and said to us, we want no net loss ever in this country of wetlands again, we're down to ninety-nine million acres and we hear of reductions in fowl and game and all kinds of Ducks Unlimited people saying you've got to do something, you've got to do something, we have the non-point authorization that we put in the Clean Water Act, and we can't get one penny from the administration. You've got four hundred million dollars sitting. And I'm trying to figure out what our next step should be, how we bring about a program that can be useful to all those that are out there and how we can get that flexibility I talked about so that Minnesota can act and will act. And I'd like you to think about the types of incentives we have not only in direct funding, but all our funding, and what would do the most good. What would be cost effective, but also perhaps look at the tax role for incentives. So that the private sector can play a much larger role. They have tremendous amounts of talent in the corporate sector. If we can get that joined with what you've presented here today and the research that's already been done, I think there are a lot of innovative programs we could put together. And we're gonna keep this record open for some period of time and hopefully as you go back and reflect upon the hearing, I hope you'll listen to the other witnesses and then get back to us in terms of what we can do in legislation; what the administration can do administratively in these various programs which will reach that land and that ownership and that kind of development and type of litigation that we're gonna require. If we do allow a development, in what—not only the quality, quality or quantity of that litigation, but the quality which is probably more important especially down here because of the sensitivity you have in your estuaries. And how do we place that within a cost structure that is very limited. I think the only way to do it is by going to the property holder and providing an incentive for that private landowner to come to you and ask you where do we go from here, what can I do, and if I drain this section of my land, where can I mitigate, how can I mitigate and what the hell is this all about. So I hope you'll think about that and with that I will—I have other questions that I'm gonna submit in writing because of the length of witnesses that Greg has got before us today and we sort of even want to give them as much time as we can. So let me turn to Mel Hancock for any questions or comments he may have.

Mr. **Hancock**. Thank you, Mr. Chairman. I'm just curious, I'm, by far a what, ninety-percent of the shoreline here is owned by private interest? Ninety, ninety-five percent. At least by far the majority.

Mr. **Nailon**. Yes.

Mr. **Hancock**. The question here is what's perceived as the public good, and the rights of private ownership. I think the Chairman is exactly right, I think the what we need to address is how we can get the private interest involved in this problem. Naturally, we still have one problem though and that is nature itself. Do we try and undo what nature has planned? If so, then you better slow it down. I think the Chairman said there were two hundred and twenty million acres that are now down around ninety million acres, but we still have to be concerned about the rights of the individual and the rights of the guaranteed under our Constitution concerning the ownership of property. If in fact we can get the budget balanced then we can take a look at tax incentives from a standpoint of what is for the public good.

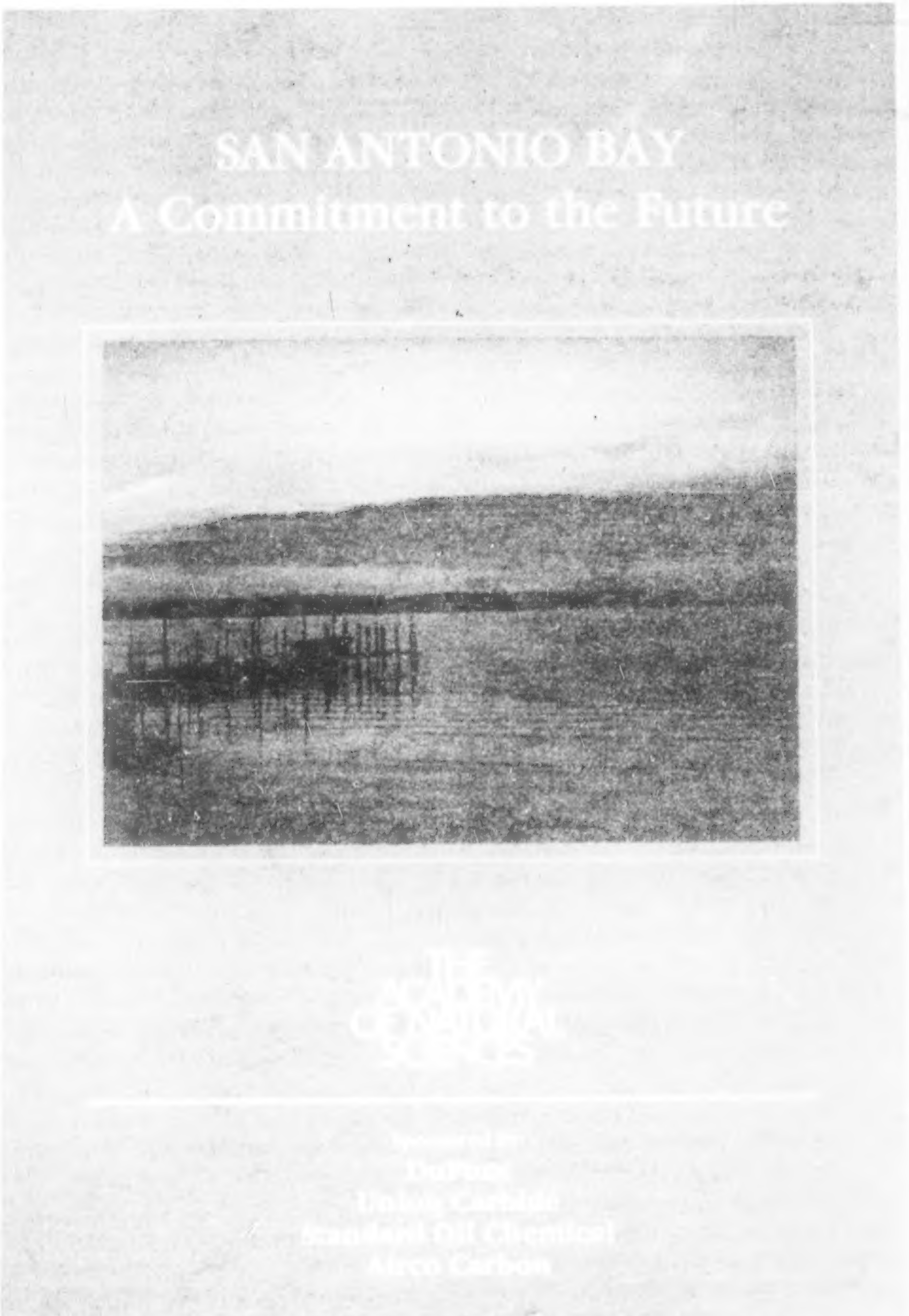
Mr. **Rappole**. Mr. Chairman, could I respond to that just briefly. Mr. Hancock, I'd like to point out that while private ownership holds a large portion of the area that is inland to the wetlands, in Texas in any case, the area from the high tide line out belongs to the public. So most of the areas that we're talking about that are going to have major effects from development actually belong to the public. To respond to what Mr. Nowak said here, I think that it's a—if we could get prior development to actually pay the cost, the real cost, and we've been hearing, Dr. Morton and Dr. Sage, we—it was clear that we have a fairly good handle on it even some—what some of these indirect costs would be. If those costs were actually addressed then I think we could come to some accommodation.

Mr. **Nowak**. Congressman Laughlin.

Mr. **Laughlin**. I have no questions but I certainly thank each of you for the very informative testimony you've given us this morning. It's been very helpful and thank you very much for being here.

Mr. **Nowak**. Again, let me also add my thanks for your appearances.

[The following was received from Mr. Keith:]



SAN ANTONIO BAY
A Commitment to the Future

THE
ACADEMY
OF NATURAL
SCIENCES

Sponsored by:
DuPont
Union Carbide
Standard Oil Chemical
Airco Carbon

For more than thirty years the petrochemical industries located within the San Antonio Bay watershed have demonstrated a continuing interest in the health of the aquatic life of San Antonio Bay, through their sponsorship of environmental studies conducted by The Academy of Natural Sciences of Philadelphia. The Academy, founded in 1812, is a world-renowned private institution dedicated to increasing knowledge of the natural world through environmental research and natural history education. Sponsorship was initiated in the early 1950s by DuPont and Union Carbide, located at Victoria and Seadrift, respectively. In the 1980s, the Standard Oil Chemical Company at Green Lake and Airco Carbon at Seadrift also became active participants in the monitoring program.

The purpose of these studies has been to monitor periodically the biological condition of the Bay, as reflected by its ability to support populations of shrimp, crabs, fish and the small animals they feed on. If this monitoring were to reveal a significant change in the number or diversity of the organisms being studied, a more specific program to determine cause and effect could be implemented.

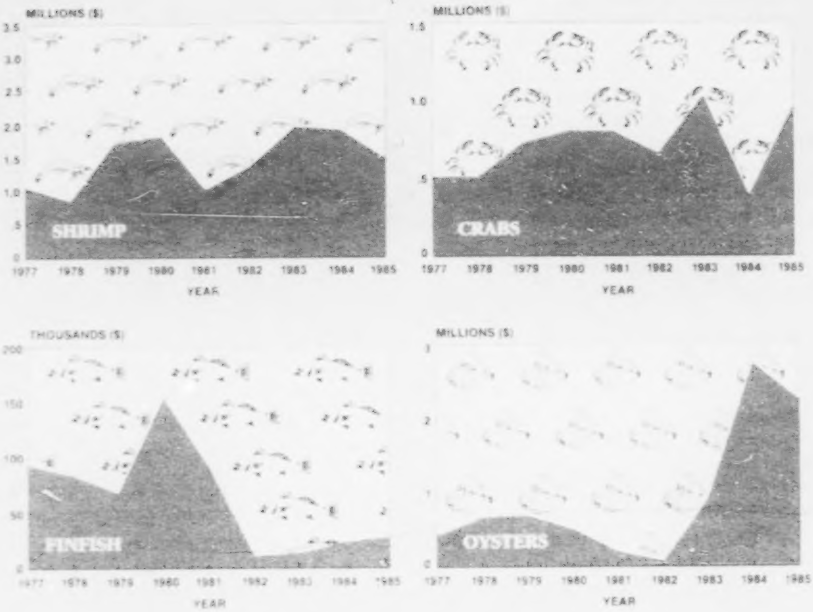
Over the years, the focus of the monitoring studies has shifted as the relative importance of various commercial species has changed. Early studies (1950-1978) consisted of biological surveys of shrimp and oyster populations; from 1976 through 1984, the studies were broadened to include study of the fishes of the Bay, a census of animals living on and in the Bay sediments, and physical/chemical analyses of Bay water samples.

The results of the historic surveys suggest that the fin and shellfisheries of the San Antonio Bay have experienced continual fluctuations. These fluctuations can be attributed to seasonal migrations and more localized movements into and out of San Antonio Bay due to stresses brought on by drought, dredging, and storm events that drastically modify the salinity of the Bay.

Survey crew members removing shrimp and crabs from the drop sampler. From left to right: Don Barnett (DuPont), Dr. K.L. Heck (ANSP), Jacqueline A. Meehan (Union Carbide), Howard Mitty and Steven G. Halterman (ANSP).

In 1985, the study design was modified to focus the biomonitoring effort on representative species of general concern. Shrimp and crabs were selected, in part, due to their importance to the Texas economy. For example, the 1985 dockside value of the commercial shrimp fishery landings along the Texas Gulf coast was estimated at $161 million. As such, the shrimp industry is Texas' most valuable commercial fishery, responsible for contributing approximately 1/2 billion dollars to the state's economy during 1985. (Texas Parks and Wildlife Department, Coastal Fisheries Branch.)

To provide for the management of this valuable resource, the National Marine Fisheries Service (NMFS) laboratory at Galveston has developed a coastal monitoring program. The objective of the program is to document the factors affecting the reproductive success of the commercially important shrimp and crab species and the ability of various Bay habitats to serve as "nursery" grounds. The results of the Academy's biomonitoring program will be used in conjunction with the NMFS data to allow researchers to better understand how San Antonio Bay functions when compared to other bays along the Texas Gulf coast. For this reason, the Texas Water Development Board has also been interested in the results of the studies being conducted in San Antonio Bay.



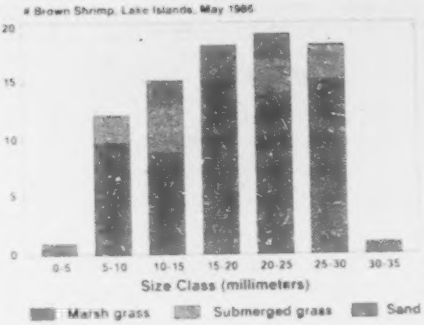
Commercial Importance of San Antonio Bay

The dockside value (in dollars) of the four most important commercial species caught in the San Antonio Bay system between 1977 and 1985. The yearly revenues for shrimp and crabs have remained fairly constant during this nine year period while oyster revenues have increased dramatically since 1982. **Note:** Finfish revenues have declined sharply since 1980 due to the implementation of the moratorium on red drum and spotted seatrout fishing. The commercial fishing industry in San Antonio Bay was also dealt a severe setback by freezing temperatures during December 1983 and January 1984 that killed in excess of one million fish. (Texas Parks and Wildlife Coastal Fisheries Branch.)

The current studies are also being used to assess the impact of variations in freshwater inflow (droughts, floods) on the productivity of the shrimp and crab species living within San Antonio Bay. For example, extended periods of low-flow conditions can lead to severe damage to the nursery grounds within the various marsh habitats by increasing the salinity of the Bay waters. Prolonged increases in salinity directly affect the growth and survival of very young shellfish and decrease the ability of the Bay to effectively recycle organic nutrients.

These studies are also designed to gauge the importance of tidal marshes and submerged vegetation in the life cycles of the shrimp and crabs living within San Antonio Bay. Shrimp and crabs inhabit these nursery areas during the stage in their life cycle in which they're most vulnerable to sudden changes in their environment.

The life histories of shrimp and crabs are short, but quite complex. For example, shrimp mate in Gulf coast waters and each female lays approximately 1/2—1 million eggs. The eggs sink slowly to the bottom, hatching usually within 24 hours, and the larvae swim about, feeding on microscopic plants and animals. Many of these small shrimp are eventually carried by the tide into San Antonio Bay, where they settle out in the marshes and backwaters to feed upon the many smaller animals living within the Bay sediments. After several months of rapid growth, the adult shrimp gradually move out of the Bay, back into the Gulf, to complete the cycle.



The number of brown shrimp collected at the Lake Islands site during the May 1986 survey. Note the number and size class diversity of the shrimp collected in the marsh and submerged grass habitats compared to bare sand.

The two study areas, Lucas Lake and Lake Islands, were chosen due to their wide variety of existing habitats (marsh, submerged vegetation, bare sand/mud bottom) and contrasting environmental conditions. Lucas Lake, located on the delta, is only slightly more saline than river water. Lake Islands, situated closer to the mouth of San Antonio Bay, is further removed from the impact of the freshwater discharges of the Guadalupe and San Antonio rivers.

Shrimp and crab samples were collected during the spring and fall seasons using the technique employed by the NMFS. A cylindrical fiberglass drop-sampler, approximately six feet in diameter is lowered on various vegetated and non-vegetated areas located within the two sites. The drop sampler, equipped with a sharp metal edging, is driven deeply into the mud or sand and the water trapped within the cylinder is pumped through a fine mesh net. After the water is removed, the Bay sediments and plant root masses are searched to collect any animals that might have burrowed into the bottom. These animals, along with samples of plant material and data from the various water quality parameters measured (dissolved oxygen, salinity, temperature, etc.) are taken back to the Academy's laboratories in Philadelphia for more detailed analyses.

The results to date suggest that the marsh and submerged grass habitats in San Antonio Bay serve as significant nursery grounds for shrimp and blue crabs. Similar to previous studies in Texas, they also show that brown shrimp and blue crabs are more closely associated with vegetated habitats than are white shrimp. In addition, coastal sites (Lake Islands) appear to be more important nursery grounds than those in the delta (Lucas Lake).

A comparison with the NMFS sampling program conducted in Lavaca Bay showed that coastal habitat shrimp and crab densities were similar, but that densities of shrimp and crabs were greater in Lavaca Bay delta habitats than in San Antonio Bay. This is most likely due to the greater salinity found in the Lavaca Bay delta rather than to other possible differences in water quality that may exist between Lavaca and San Antonio bays.

The Academy/NMFS program will be expanded during 1987 to include several new sampling sites. The results of this program will help to provide the information State and Federal agencies will need to manage the many natural resources of San Antonio Bay for future generations.

Written by R.L. Thomas and Dr. K.L. Heck
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Mr. **Nowak**. I think now the panel of federal agencies who work with these programs and who have a direct contact with the state and the private community here, we call now from the U.S. Army Corp of Engineers, Col. John A. Tudela.

I think if we could take our seats, I'd like to get the rest of the witnesses up so that we could give everybody—there are some seats up at front now that are vacant. If anybody would like to move up, I understand you can hear much better if you're up front here.

If we could have everybody to take a seat, if you'd like to visit, if you could leave the room for a few minutes and then come back we'd appreciate that so our witnesses can be heard.

And from the U.S. Soil Conservation Service, Mr. Dale Fishgrabe, the Environmental Protection Agency, Mr. Norm Thomas, from the National Oceanic and Atmospheric Administration, Dr. Nancy Foster, from the U.S. Fish and Wildlife, Dave Hankla, who is a Field Supervisor and he's accompanied by Roy Perez. Mr. Perez welcome. Colonel, would you like to begin the testimony?

TESTIMONY OF A PANEL: COL. JOHN A. TUDELA, GALVESTON DISTRICT ENGINEER, GALVESTON DISTRICT, U.S. ARMY CORPS OF ENGINEERS; DALE FISCHGRABE, DEPUTY STATE CONSERVATIONIST, U.S. SOIL CONSERVATION SERVICE, U.S. DEPARTMENT OF AGRICULTURE; NORM THOMAS, CHIEF, FEDERAL ACTIVITIES BRANCH, ENVIRONMENTAL SERVICES DIVISION, ENVIRONMENTAL PROTECTION AGENCY REGION 6; DR. NANCY FOSTER, DIRECTOR, OFFICE OF PROTECTED RESOURCES AND HABITAT PROGRAMS, NATIONAL MARINE FISHERIES SERVICE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, U.S. DEPARTMENT OF COMMERCE; AND DAVE HANKLA, FIELD SUPERVISOR, CLEAR LAKE, TX, U.S. FISH AND WILDLIFE SERVICE, DEPARTMENT OF THE INTERIOR

Colonel **Tudela**. I'm Colonel John A. Tudela, District Engineer of the Galveston District Corps of Engineers and I appreciate immensely the opportunity to appear before you and discuss shore erection and erosion and loss of wetlands. Today I will briefly discuss our involvement in wetlands for our regulatory program and then describe some of our activities related to coastal erosion problems.

Our major involvement with wetlands is through the administration of the Regulatory Program. Basically under two authorities. The first is Section 10 of the River and Harbors Acts of 1899 which protects navigable waters of the United States. The second is Section 404 of the Federal Water Pollution Control Act which regulates discharge of materials into waters of the United States. The permit from the Corps of Engineers is required under both authorities. The Galveston District processes approximately 800 permit applications for the Texas coastal region each year. The decision process for granting a permit is based on a full range of public interest factors for both the protection as well as utilization of the resource. It is often very difficult to make a choice between wetlands and other essential public interest factors including property rights. Our goal is to strike a proper balance among the competing interests for the use and protection of this important resources.

Along Texas' 400 miles of Gulf shoreline, approximately sixty percent is eroding, thirty-three percent is stable and seven percent is building. Erosion rates in some areas are greater than fifty feet per year. In the Sargent Beach area, the erosion is unprecedented along the Texas coast. It happens to be occurring where the Gulf Intracoastal Waterway parallels the shoreline. The distance from the Gulf waters to the GIWW was at six hundred and fifty feet on January 18, 1889. At the occurring high rate of erosion, operations of this vital economic artery could be jeopardized by breaching soon after the turn of the century.

The San Bernard National Wildlife Refuge, located just to the east of the Sargent Beach area, is also affected by erosion. In addition, the refugee could be impacted by a decision to relocate the GIWW at Sargent Beach.

The Aransas National Wildlife Refuge is also affected. This refuge provides a wintering area for the rare and endangered whooping crane. The GIWW passes through the refuge which is a critical habitat of the cranes. Erosion of the critical habitat is occurring along the waterways from navigation traffic as well as natural processes.

Studies currently underway will address the problems in the Aransas and Sargent areas as well as along the entire GIWW. These studies were initiated this past November, with the objective to evaluate means of reducing adjacent wetland losses, possible restoration and a long-term plan for maintenance on the navigation channel will be evaluated. The reconnaissance phase of these studies will be completed this November. Major funding will be needed to pursue the feasibility phase of the studies to implement solutions.

Future and separate actions will also address shore erosion problems in Matagorda County, such as the area adjacent to the mouth of the Colorado River jetties.

To deal with these problems, we are fortunate in the Corps to have the expertise of the laboratories. Recently, a team from Vicksburg visited Aransas National Wildlife Refuge to assess possible short term as well as long-term solutions to the erosion problem.

Beneficial uses of dredge material also offers a great opportunity for treating the problems. We recently conducted prototype experiments using dredge material to nurture the beach of South Padre Island. We have also used dredge material on disposal areas for shrimp mariculture activities. The results are very encouraging to this point. In conclusion, wetlands are an important national resource. Coastal erosion affects wetlands and other aquatic resources and is a formidable foe. The costs are high and each area must be independently addressed being careful to take into account all costs, structural, environmental, fish and wildlife and social. Galveston District is committed to balancing these costs in the best interest of the nation. Thank you very much, Mr. Chairman, this concludes my presentation.

Mr. **Nowak**. Thank you very much, Colonel. Mr. Fischgrabe would you like to give your testimony?

Mr. **Fischgrabe**. Thank you very much. Mr. Chairman and Members of the Committee, I'm Dale Fischgrabe, Deputy State Conservationist for the U.S.D.A. Soil Conservation Service in Texas. Wes

Oneth, Deputy State Conservationist is in Oklahoma City at a previous engagement.

I'd just like to bring the Committee up to date on the policy that S.C.S. is operated under for the past fifteen years in providing assistance on wetlands. We only provide assistance on Type 1 and Type 2 Wetlands as identified in Circular No. 39, of the U.S. Fish and Wildlife Service. And even then when assistance is provided there are criteria that we follow to ensure proper methods. It's based on a documented environmental evaluation that determine that there's no other practicable alternative; and, that the proposed action, if implemented, will minimally harm that wetlands; and, the land must have been cultivated to produce food, feed, fiber or oilseed crop in three of the five years preceding the request. And the other consideration is that all the necessary federal, state and local permits must have been obtained or land user has been advised by those agencies that they're not necessary. Many times land users are assisted by SCS in any type of construction, they're advised to request a full 404 permit from the Corps.

The SCS is also concerned about the quality of wetlands. Cooperative studies have been initiated with the Texas Agricultural Experiment Station and rice farmers to determine some basic recommendations to improve the quality of water from rice fields. As an example, we recommend that they achieve the maximum adherence to pesticide levels, use the minimum amount of irrigation water, and maintain adequate levee freeboard to contain and utilize natural rainfall.

A cooperative study is underway with the—between the SCS, the lower Colorado River Authority, TAES, and Soil and Water Conservation Districts as well as local rice growers to monitor the quality of the runoff, whether it's irrigation or rainfall.

Under the provisions of the Food Security Act of 1985, SCS has certain responsibilities that have an impact on wetlands. We have the responsibility of identifying wetlands on all cropland, potential cropland, and wetlands adjacent to cropland. This must be completed by December 31, 1991. We're well on our way to completing this. We have completed the mapping in Waller and Fort Bend Counties and are in the process of mapping Liberty, Harris, Matagorda and Jackson counties.

Most all the offices along the Texas coast have made wetlands determination as required by Food Security Act of 1985. There's also a role in the Conservation Reserve Program as it applies to wetlands. In the eighth signup, the Secretary of Agriculture established two new criteria for eligibility. Farmed wetlands and Scour Erosion due to out-of-bank stream flow. We believe that there will be a larger signup in July when producers have had a greater opportunity to learn about this criteria.

Farmed wetlands in Concentrated Reserve Program must be planted to a tree species approved by SCS. And SCS in Texas has required that these lands be established as bottomland hardwoods, if the site supported hardwoods under natural conditions. We believe that by establishing the hardwoods that there's a better chance of staying in trees after the contract expires in ten years.

In the middle 1960's the natural entrance to those approximately 41 thousand acre coastal marshlands known as the Keith Lake

Complex was closed by spoil placement during the dredging of Port Arthur Ship Channel. During this dredging, a weir was constructed at the north entrance to allow passage of shrimp larvae between the Complex and the Gulf. This meant that any fish entering or leaving the Complex must travel eight miles to reach the Gulf.

A joint effort was initiated in 1977 between the Coastal Soil and Water Conservation District, the Texas Parks and Wildlife Department and Soil Conservation Service to construct a channel through the spoil area. This is known as the Keith Lake Water Exchange Pass. The Pass is thirty-one hundred feet long by a hundred and fifty feet wide and six feet deep. Through the Resource Conservation Development Program, the cost of two hundred and twenty-eight thousand dollars was divided equally between the Texas Parks and Wildlife Department and the Soil Conservation Service. The Program has—the project is functioning as intended and it provided a vastly improved habitat in the marshland complex.

Others have mentioned the rate of erosion on the shoreline and I will omit that part as it is in our written statement. I would mention one thing about it, that there had been demonstrations plantings in Chambers County, Brazoria County, Calhoun County and San Patricio County scheduled for this year.

Evaluations are underway as mentioned by one of the previous panelists about the problems with the fungus and trying to find a grass or a species in variety that is resistant. And there is a Plant Material Center, in South Texas at Kingsville, and here we are trying to adapt better marsh plants.

The Soil Conservation Service is participating in the Galveston Bay Estuary Program which is a part of the National Estuary Program which also has previously been mentioned, with a representative on the scientific and the technical advisory committee.

We're cooperating with U.S. Fish and Wildlife Service in the North American Waterfowl Management Program by encouraging private landowners to take advantage of the opportunities to assist in providing water, food, cover for waterfowl.

Mr. Chairman, this is a brief summary of my remarks and I thank you for the opportunity to appear here today.

Mr. **Nowak**. Thank you very much. We'll now turn to Mr. Norman Thomas of the Environmental Protection Agency.

Mr. **Thomas**. Good morning.

Mr. **Nowak**. Good morning, Mr. Thomas.

Mr. **Thomas**. Mr. Chairman, members of the Committee, I am Norm Thomas, Chief of Federal Activities Branch, U.S. Environmental Protection Agency out of Dallas, Texas. And with your permission, you've had some excellent presentations on the problem with slides and I think if you will I would like to go directly to some of our problem activities.

Mr. **Nowak**. The problem has been well defined.

Mr. **Thomas**. In 1986, in recognition of the importance of the Nation's wetlands, EPA formed the office of Wetland Protection and expanded and emphasized the Wetlands Protection Program. Region 6 Wetlands Protection Program was developed similar to other regions and encompasses permit review, enforcement, advance planning and public outreach. Under Section 404, the Clean Water Act, as you know EPA and the Corps of Engineers jointly administer a permit program that provides for the issuance of permits for the placement of dredge and fill material into water of the United States. Our regulatory efforts have focused on a review of over a thousand permits along the coast of Texas and Louisiana. We look to see if those permits are in compliance with the Section 404(b)(1) guidelines. These guidelines apply site specific criteria for establishing appropriate conditions to minimize unacceptable affects of the aquatic ecosystem. A Memorandum of Agreement with the Corps of Engineers and EPA provide a process for resolving any issues that we might have. And it is recognized that EPA has the ultimate authority in regard to prohibition of discharges in waters in the United States. Increased efforts and emphasis is being placed on enforcement of unpermitted activities by EPA.

A 404 enforcement program has been initiated involving administrative orders, penalties and civil referrals. An Enforcement Agreement has been reached between the Corps of Engineers and EPA in the Southwestern Division.

Advance Identification Studies have been initiated for coastal and inland Texas. A coastal study is located on the western end of Bolivar Peninsula on the Gulf of Mexico near Port Bolivar, Texas. Advanced identification is to identify sensitive areas and the studies are designed to protect valuable and vulnerable aquatic resources by providing planning information to the public regarding the importance of the wetlands. The benefits from conducting an advance identification are, predicting—the predictability of the 404 Permit Program. Time and money can be saved by guiding activities away from sensitive areas. A mechanism to educate the public concerning the values of wetlands. Third, a resolution of permitting activities and conflicts that may occur before they become resource intensive and clear enforcement action.

The wetlands program achieves the environmental themes called for by the new EPA administrator, William Reilly, including controlling pollution, renewing our commitment to national resource conservation, and better enforcement. These themes are consistent with the findings of the National Wetland Policy Forum which was published last Fall. The recommendation of the Forum called for increased planning efforts, development of state wetland protection plans and increased levels of enforcement. The Forum also recommended a goal of no overall net wetland loss in terms of acreage and function. President Bush has been mentioned as to endorse such a policy and he has established an Interagency Task Force of the Domestic Policy Council to recommend ways to revise the executive order on wetlands and to strengthen the agency activities with respect to wetlands. We are ready to work with other agencies and sort out many of the complex issues that we faced in implementing this concept.

In summary, we have expanded our wetland protection program activities over the last two years here in Region 6 and are now involved in all aspects of wetlands protection. Specifically, we have an active enforcement program, we're involved in two advance identification studies here in Texas and we are providing technical oversight to the Corps of Engineers permitting efforts and are involved in public education through the public outreach programs and encouraging state and local planning efforts to manage the coastal areas.

This concludes my presentation. I will be ready to answer any questions.

Mr. **Nowak**. Thank you very much. We will now turn to Dr. Foster.

Ms. **Foster**. Good morning. My name is Nancy Foster and I'm the Director of the Office of Protected Resources and Habitat Programs with National Marine Fisheries Service. And I'm particularly pleased to be able to participate in this hearing because I was born and raised in this state. All the way through a Masters Degree, discovered the wonders of marine biology on this very coastline.

If you look at the Gulf of Mexico you find that over forty-five percent of all coastal wetlands that we have left in the United States are found in that Region. And of that forty-five percent, ten percent are found along Texas' coast. Not only that, but the Gulf of Mexico wetlands are extremely productive. Out of this area you get about 2.5 billion pounds of commercial fishery landings each year. And these landings are valued at over seven hundred million dollars. In 1987, in Texas alone, we pulled in a hundred and eleven million pounds of commercially landed fish and shellfish with a value of over two hundred million dollars. And that doesn't even include—says nothing to the recreational side of things because in 1986 recreational fishery landings in Texas came to over three hundred million dollars. Interestingly, most of those commercial and recreational species are dependent at some point in time in their life cycle, on tidal wetlands.

Unfortunately, Texas is faring no better than most of the other states and they are, as you've heard all morning, they've suffered a significant loss in wetlands. It was given earlier that they've lost at least a third of the million acres that they had in the 1950's. And if you look at The Texas Wetlands Plan, which is a very valuable document, it tells you that not only that, but that much of the remaining acreage has been severely degraded by man's activities and by natural activities in the Gulf. And we're concerned about this because this loss of wetlands affects these valuable fishery resources. And that's what we do in fisheries. I mean we have the responsibility to more stewardship of living marine resources. And we're responsible for conservation of their habitat. We're responsible for managing fisheries out to two hundred miles, for marine endanegered species, marine mammals. And if you look at our habitat responsibilities, you'll find that not only do they encompass coastal areas and estuaries, but we also are responsible upstream as far as necessary to protect anadromous species' spawning grounds.

If you look at the Gulf, around ninety-eight percent of all the commercial fish landings and seventy percent of the recreational fishery landings consists of species that are dependent on estuary marine areas. And so obviously the conservation of those habitats is one of our principal objectives. When we go about analyzing activities that might affect wetlands, our objective is to maintain the status quo with regards to wetlands that are left. In other words, the no net loss concept. And we believe that it's only as a last resort that you look to replace wetlands with others which hopefully will be a functional equivalent. And we believe that you get there, as you heard other people say the same thing, that the best way to do this is to do it through a sequenced mitigation process.

If you look at the Clean Water Act and the CEQ regulations, you find the same philosophy. And we think it's a common sense philosophy. If you're concerned about critical habitats then the first thing you try to do is to minimize impacts and then finally as a last resort to restore, create or substitute. And I guess one of our concerns is that often we see both things being used not as a last resort but sometimes as a first resort. And it's because of our concerns is that we focus a great deal of our research in this area. We've been looking to establish criteria for defining acceptable replacement habitat and for evaluating the success of the current restoration and creation techniques some of the things you saw today. Some that we're also doing in fisheries. We're concerned that we don't wind up forty years down the road having traded off valuable natural habitat for less productive mitigated habitat because along with that comes a loss in fishery productivity.

We get involved through our regional staff in almost any project in any of the states in the Region that deal with impacts to the habitat to these living marine resources.

I'd like to—no other agency has many components that deal with the wetlands issue. That—all that information however is in my prepared testimony and I'm not gonna go into that. I might just mention briefly that we are responsible for the National Coastal Zone Program. And I was very pleased to see that just this day an article appeared in the newspaper that indicated Texas as considering once again becoming—in developing a coastal management plan and becoming part of that program.

I'd like to make one final point. We get a little concerned in my agency that we seem to be losing the war to conserve our wetlands. We win a few battles now and then, maybe more than you think, but we still think we're sort of losing the war. And I'm sure not why. If you talk to people as you've been doing, everybody is concerned and everybody wants to do the right thing. It makes you wonder that perhaps the answer to the problem is that we don't know what the right thing is to do. And we don't know what to do. And there might be a little truth in that. Another possible answer is that we have all the pieces, but we don't talk to each other enough to be able to put them together. If you go around again as you've done, and I'm sure you've heard all this, and you talk to people and you ask them about the problem, you'll get a variety of answers. People will tell you that the existing programs can't do the job and you need new programs or they'll tell that the now existing programs are fine, but we're not implementing them or enforcing them effectively. Other people will focus on coordination, other people will even say maybe we ought to throw out a bunch of those programs that we have because they're not doing the job. Well I don't pretend to know what the answer is, but I think it's encouraging that through the—when the President made a statement about no net loss and the fact that the administration is going to set up this task force might give the federal government a chance to get it's collective act together. If you look back over some of the earlier testimony that NOAA and EPA have made, you'll find that in both instances the agency that testified that it's important that resource and regulatory agencies work together to get at this problem. I think it's also imperative and you'll find that both of our agencies have said that we're not going to get at the problem if you focus only on 404 issues. You know too many wetlands outside the jurisdiction of 404. But we're looking forward to participating in this task force effort and hope that that gives us a chance to get this problem under control. I'd like—I can answer any questions you'd like.

Mr. NOWAK. Thank you very much. We'll have Dave Hankla also give his direct testimony before we get on with the questions.

Mr. HANKLA. Thank you, Mr. Chairman. Mr. Chairman and Members of the Sub-committee, my name is David Hankla. I am the Supervisor for the U.S. Fish and Wildlife Service Field Office in Houston, Texas, which serves the upper Texas coast. Mr. Roy Perez over here to my left is the Supervisor for the Services Field Office in Corpus Christi and they serve the lower Texas coast. We both appreciate the opportunity to appear before you today and present this testimony. Our testimony will address the Service's role in wetlands protection and management and some of the major federal programs affecting coastal wetlands losses in Texas.

I personally worked on one of these issues in the coastal states of the United States for most of the last ten years and Mr. Perez has worked on wetland issues along the Texas coast for about thirteen years. Jointly, we coordinate federal permit and project review work affecting about a half million acres of coastal wetlands.

The Service administers nine national wildlife refuges in coastal Texas with a total area exceeding three hundred thousand acres. The purposes of these refuges include maintenance of waterfowl populations, endangered species management, and preservation of unique ecosystems such as Barrier Islands. The endangered species utilizing coastal refuges include whooping cranes, peregrine falcons, bald eagles, ocelots, jaguarundis, sea turtles and piping plovers. Refuges in estuary areas are also a vital habitat for a wide variety of fish and shellfish including many commercially important species such as shrimp, blue crabs, oysters, red drum, flounder and sea trout. Management of these refuges includes measures to preserve, restore and/or enhance coastal wetlands.

At McFaddin National Wildlife Refuge near Port Arthur, structures are currently in operations to retard intrusion of saltwater from the Gulf Intracoastal Waterway into productive marshes that are naturally only slightly brackish. On San Bernard National Wildlife Refuge near Freeport an ambitious project is underway to restore extensive marshes that are currently deteriorating because of lack of fresh water inflows. Also at San Bernard an investigation is focusing on identifying the source of pollution that is degrading oyster beds within the refuge waters. These coastal refuges receive extensive public use in a variety of forms.

Wetlands within the coastal refuges are not without problems. One of the more serious concerns is degradation each year by erosion along the gulf and coastal waterway. Many refuge wetlands suffer from saltwater intrusion, sometimes worsened by the gulf and coastal waterway and other manmade canals and by diminished fresh water inflows caused partially by off refuge developments, and drainage alterations. Refuges located in the lower portions of watersheds are also degrading by pollution ranging from agricultural pesticides and contaminants to industrial and domestic sewage. Water control structures and erosion control projects are often necessary to effectively manage these wetlands.

The Service's Waterfowl Habitat Acquisition Program along the Texas coast has been guided historically by the Waterfowl Habitat Acquisition Concept Plans and more recently by North American Waterfowl Management Plan. Land protection and acquisition goals have been developed by the Service in cooperation with other federal agencies, state agencies and local governments, conservation groups and private landowners. The six wetland complexes totalling one hundred fourteen thousand acres along the Texas coast have been identified as priority preservation sites for protection and acquisition by our Division of Wildlife Service or by the Texas Parks and Wildlife Department.

There are also other federal program activities that impact wetlands along the Texas coast. Pursuant to the Fish and Wildlife Coordination Act, the Service has a major responsibility to consult with other federal agencies regarding the impacts of those activities which affect wetland resources.

The Service serves as a scientific advisor to other agencies and evaluates proposed activities and their impacts on fish and wildlife resources. The Service makes recommendations to the federal agency based on sound biological judgments.

The Department of Interior and the Fish and Wildlife Service support the President's goal of no net loss wetlands. We believe the Service has been a leader in promoting this as an issue over time by making recommendations that will reduce or eliminate the impacts. The Service continues to work with these federal agencies to formulate the least environmentally damaging project alternative. To accomplish this, the Service follows a stepwise sequence of recommendations to mitigate for potential impacts to wetlands. This sequence includes avoiding, minimizing and compensating for impacts.

In addition to the Fish and Wildlife Coordination Act, the Clean Water Act provides the Service with the responsibility of reviewing federally permitted or licensed actions which could affect wetlands. These acts require federal regulatory agencies such as the Corps to consult with the Service and the appropriate state Wildlife Agency whenever anyone proposes to modify wetlands or other bodies of water through permits, such as those required by Section 404 of the Clean Water Act.

The Service participated recently in the development of an Interagency Jurisdictional Wetlands Delineation Manual which should provide for more consistent and timely jurisdictional delineations. The Service is concerned, however, regarding other aspects of the Corps of Engineers, Administration, Section 404 Program, including the role of the 404(b)(1) guidelines for permit decisions and mitigations for permits issued. It is our observation that permits for non-water attendant purposes are issued on a somewhat routine basis and that mitigation or compensation for permitted projects is often insufficient or in some cases not required. I believe you've already heard some testimony today about permits such as Bakersport and Playa del Rio, which are the type of permits that concern us.

Coastal Barrier Resources Act of 1982 removes Federal subsidies and discourages development along one hundred sixty-one miles of designated coastal barrier units and their adjacent wetlands in Texas. Texas is one of the main coastal barrier states. Erosion within the Sargent Beach Unit threatens the continued existence of the Gulf Intracoastal Waterway and is causing a loss of high quality costal wetlands in the San Bernard National Wildlife Refuge and on adjacent private and state lands. These wetlands are of great value to migratory waterfowl whose populations are rapidly declining as well as estuarine fish and shellfish which contribute both the sport and commercial fisheries of the state.

The Service is also involved with reviewing the impacts of water development projects on coastal wetland and estuaries which are authorized for construction by the Corps. The Service is concerned that civil works projects for coastal Texas can be adequately assessed in terms of their adverse environmental impacts and that they be planned with the view to minimizing the adverse impacts and they adequately compensate for the habitat losses which they cause. The Service has been particularly involved with the Wallisville Reservoir Project which is on the north side of Galveston Bay and the Galveston Bay Area Navigation Study. We've been concerned that both projects as proposed would result in excessive losses of fish and wildlife resources.

Another example of a civil works project impacting wetlands involves the operation of the Gulf Intracoastal Waterway. Since it's construction in the mid 30's, the GIWW has directly impacted over two thousand acres of wetlands, now within the critical habitat of the endangered whooping crane. Most of these impacts were caused by initial dredging and filling and subsequent channel maintenance within the boundaries of the Aransas Refuge. Erosion of the west bank of the Waterway within the refuge, however, has resulted in the loss of an additional two hundred thirty acres of critical habitat. When this loss was first quantified over a year ago, the Service encouraged the Corps to initiate stabilization of the erosion in a timely fashion. The Service, the Corps and Conoco, Inc., have now began discussions of plans to sandbag the worst erosion areas on a temporary basis. A Corps study to solve the erosion problem is under way.

The last federal activity that I'll address is the loss of bottomland hardwood forest resulting from implementation of the Federal Flood Insurance Program. The Federal Emergency Management Agency, or FEMA, underwrites flood insurance for structures built in a flood plain if they're raised in elevation above the flood zone. This policy allows houses to be built in bottomland hardwood areas which would otherwise not be built if the insurance were not available.

In closing, we thank you for the opportunity to appear before the Subcommittee. The value and contribution to the quality of life of thousands of citizens by the Texas coastal wetlands can not be overstated. The loss of our coastal wetlands and associated fish and wildlife resources are a very serious problem. Some recent symptoms have been the increased restrictions on sport and commercial fishing and substantially reduced waterfowl populations. We believe the areas of concern mentioned to you today have been key factors in the declines of these resources. Thank you, sir.

Mr. **Nowak**. Thank you very much. Let me ask a question of you Mr. Hankla, you know that there's a great reduction, can you give us any statistical information as far as the particular types of waterfowl or birds that have been reduced and also why in your opinion has it occurred?

Mr. **Hankla**. Well, specifically, all the waterfowl numbers and declines are documented on North American Waterfowl National Plan Document, I don't have those figures before me, but key species in our particular area around here, I would say the one that we're focusing on the most through our Gulf Coast Joint Venture is the Northern Pin-tail. In terms of why that decline has occurred, obviously the drought has had an impact. A lot of people are now questioning whether the harvest regulations in the past were appropriate. But I think we also have to recognize that wintering habitat has been seriously degraded over time and our North American Waterfowl National Plan Document is the first document that we have within our agency that recognizes the wintering habitat is a limiting factor for waterfowl populations. If you like to get more specific, perhaps I can give you a better written response.

[The following was received from Mr. Hankla:]

U.S. Department of the Interior,
Fish and Wildlife Service,
Albuquerque, NM, June 22, 1989.

In Reply Refer To: Region 2/FWE/HC.

Hon. Henry J. Nowak,
Chairman, Subcommittee on Water Resources, Committee on Public Works and Transportation, House of Representatives, Washington, DC.

Dear Mr. Chairman: This letter responds to the question you asked Mr. David Hankla of the Fish and Wildlife Enhancement Field Office in Clear Like, Texas, at the conclusion of his testimony regarding wetland losses in Texas. The question concerned waterfowl population declines which may be due to the loss of wintering habitat.

It is impossible to provide an estimate of the percentage of continental waterfowl population declines attributable solely to wintering habitat degradation. However, it is known that the availability of good wintering habitat is critical to the welfare of waterfowl populations, for if ducks and geese do not survive the winter, they cannot migrate north to breed in spring. Winter is a crucial period in which habitat and other factors may interact to result in direct waterfowl mortality. For example, over 7,000 waterfowl died in a cholera outbreak in the rice prairies near Houston, Texas, last winter. Loss of seasonal open water habitat, caused by drought and cold weather, interacted to contribute to this situation. In the winter of 1978/1979, similar events resulted in the deaths of approximately 35,000 ducks in Castro County, Texas. Preliminary findings are that over 100,000 waterfowl die annually in oil field waste pits in the Southern High Plains. These acutely contaminated oil sumps are mistaken by the birds as open water; death occurs from direct exposure to toxicants in the pits. We are currently working with the oil industry and State regulatory agencies to seek solutions to this pervasive problem.

In addition to direct toxicity of contaminants of waterfowl, linkages are suspected between contaminant loading and lowered wintering habitat suitability. For example, at least two-thirds of the continental population of redhead ducks winter in the Laguna Madre of Texas and adjacent Mexico. The primary food of these ducks is a seagrass known as shoalgrass (*Hadodule* sp.). Ecosystem research now being conducted by the National Wetlands Research Center indicates a complex network of ecological interdependencies in Laguna Madre; the ducks are dependent on the shoalgrass which is dependent on proper salinity, water clarity, and other physical and chemical factors. Shifts in redhead population distribution have recently been noted. A change in shoalgrass distribution is suspected. The reasons for shoalgrass community changes are currently under study. Hopefully, our research will provide the knowledge we need to preserve shoalgrass beds in Laguna Madra and thus secure the future of wintering redhead ducks.

In summary, although our knowledge of many aspects of the needs of wintering waterfowl remains deficient, we are making major gains in our understanding through intensified research at the national and local levels. Everything we are learning points to the importance of protecting what remains of our wintering habitat.

Sincerely,

JAMES O. YOUNG,
Regional Director.

Mr. NOWAK. Well I try and relay the course of loss of wetlands here in the coastal areas of Louisiana and Texas, in the Flyway, that those birds and wildlife go down to. And that that's a factor in the whole process of reductions that have been alluded to by everybody we've talked to.

Mr. HANKLA. I believe that's certainly a factor. We've lost both.

Mr. NOWAK. How much of a factor? We have a thirty percent loss.

Mr. HANKLA. How much do we have because of the loss of our coastal wetlands? That's probably impossible to say. I think the studies coming out of lower Mississippi Valley, on birds and wintering conditions are telling us that the birds are going north in poor breeding condition. We know that this results in reduced nesting in terms of total eggs and this sort of thing. So we have evidence that tells us that the birds are going back in poor condition. However, to say we have ten percent fewer birds because of problems in Texas, or fifty percent fewer birds because of problems in Texas, is impossible for us to put our finger on. At least right now. We are conducting research.

Mr. NOWAK. U.S. Fish and Wildlife Service are trying to identify, more directly those—that lack of perhaps wetland impact here and in say up in Minnesota. Would there have to be some joint studies if you look at the one I think most people come down and visit Florida, stay in their condo or whatever, and they go back up in good shape, does that happen to the birds?

Mr. HANKLA. I think it's rather obvious that the birds don't go back up in as good of shape as perhaps those Yankee's that go to Florida.

Mr. NOWAK. They call them snowbirds. But I think, you know, we've got to more definitively make some kind of statement based on some research and it's probably, you know, it's a new area and I think that the Ducks Unlimited are blaming everybody in Texas for taking away their wetlands and they say the birds aren't coming back.

Mr. HANKLA. I think everyone likes to point the finger. In all seriousness, our research division and our research station, we have a research sub-station in Corpus Christi, we have a group in Baton Rouge, a group in Vicksburg that are all looking at the problems with waterfowl habitat on the Gulf coast right now. And I'm sure we'll continue to do that.

Mr. NOWAK. Well I hope as soon as you get that information you can submit it to us and get that to us because I think it's a very important one. Let me turn to Dr. Foster, you mentioned in your testimony on page 10, you made the statement that the protection of wetlands has been a major element of all federally approved plans, referring to the Coastal Zone Management Act, that among the Gulf states, Louisiana, Florida, Alabama, Mississippi, as approved coastal zone management plans. Could you tell us where the state of Texas is in that process?

Ms. **Foster**. I think so. It's my understanding that the legislature here approved, just this May, approved Texas going forward to actually become a part of the program and to develop this plan. They—I think the National Program has pursued Texas for a long time, but the state had not been interested previously. The interesting thing about the coastal program I think from the standpoint of what we're talking about is that it does provide grants that can be—the money can be used for exactly the same kinds of issues. And that it is another source of funding.

Mr. **Nowak**. And isn't it a better source of identification of an overall process of where you are and where you're going in this whole process so it's easy to identify the broader impacts.

Ms. **Foster**. I think that's one of the strengths of the program. Because it forces the State and the Federal Government to look at the broader picture instead on case by case piecemeal basis.

Mr. **Nowak**. When you spoke of the trade offs, looking at the development versus wetlands protection, you know we're trying to develop, or at least I believe we should be trying to develop, some way we can very directly show what the cost of a very productive wetland acre is. And that's difficult and we're really new in this business I think in looking at that. All wetlands are not equal. It's probably true that there are some very, very productive areas, especially when you get into the estuary problem and you know it was physically shown in the pictures, but it's true all over the country. In the Great Lakes, if you have a bed of seaweed, that seaweed area will be loaded with fish and crabs and everything that starts with plankton in the whole cycle. And you'll see the large larvae eating the minnows and the minnows eating the plankton and the whole cycle is—you know, plays out and I guess what we saw here in the sample I get was that no one has taken a sample of fish and wildlife when you know, that is, we've had divers go in and give testimony that even artificial plantings of seaweed brings together that community of ecology if you will and in a matter of two or three months where we had no fish, no activity. All of a sudden with three months time you've got everything from the fishes appearance to the next seasons spawning occurring in that area and it's almost miraculous as to what you can create, if we had the resources to do that. And I think we can show in this whole process that the private sector has controlled some very valuable private land that has provided enormous benefits to the general public. And somehow we've got to convince the private sector to come into--if we're gonna do anything, again over ninety percent of that is owned by the private sector. And I don't know how we make any progress as little bit of management land—land management, wetlands management as we're doing in some of the preserves. It just doesn't do it. You know, those birds are not gonna come because you designate a preserve and marked it federal. The amount of sediment that is getting out in the system and not feeding, you know, the estuaries that they have for centuries here.

When we were—I took a ride out to the Mississippi in the rain Saturday and looked at that water and that sediment washing out into the ocean. And as mentioned here again today, why can't we take more of the dredging of environmentally 'silent' material that contains all that sediment that's been washing down for centuries and feed this whole estuary area in the whole coast and from Louisiana and here in Texas also. How much have we done of that and what have been the results and can we do more. And do we need new administrative leeway or legislation?

Colonel. TUDELA. Well, sir, I think that the reluctance in what you indicate or you propose has been the fear to trade bay bottom for the creation of marsh. And we are in favor of the creation of marsh. And this falls in our program of the beneficial uses of the dredge material. And we favor that in the Corps.

Mr. NOWAK. Well how about the redoing of it? If we favor it?

Colonel TUDELA. We are doing some and would like to do more.

Mr. NOWAK. You don't—do you have any figures as to——

Colonel TUDELA. I can provide——

Mr. NOWAK [continuing]. How much of those—how many tons we're moving and where we're moving and what the results have been?

You know this is a program not only for your area here you know ,but isn't there some way we can catch that sediment in the higher flushes that come down the Mississippi track. Don't let it get on the bottom.

Colonel TUDELA. Well here in Texas——

Mr. NOWAK [continuing]. Is that gonna be more expensive for us to do that if those sediments are rich as it flushes through the system after a heavy rain.

Colonel TUDELA. Well in Texas we're not doing much, but I can tell you that in Louisiana alot, as a matter of fact, an official from Louisiana indicated that they'd like to have all the dredge material from Texas and they want Texas to pay of course.

Mr. NOWAK. Pay when they ship it over?

Colonel TUDELA. That's right.

Mr. NOWAK. Well what are they doing with it now? The dredge material, what do you do with it from Galveston or the Texas area?

Colonel TUDELA. We have—one of the challenges here in Texas is the acquisition of areas to put this transfer material. And the state has responsibility for that. So we preferably deposit it outland, whenever we can not do that, we do deposit it on bay and whenever possible or economically feasible we do it offshore. That's what has been happening in Texas.

Mr. THOMAS. Sir, could I help with some of the answer on that?

Mr. NOWAK. Yes, sir.

Mr. THOMAS. Along the Gulf coast both in Louisiana and Texas, we have offshore site disposals for the dredge material. And we are in the process now of formally finally designating those sites. It is much more beneficial if we could find inland sites to use that material to build the wetlands just as we had suggested. The cost is the thing that is deterring us from using that, particularly you're talking about incentives, the cost then is being borne by the—also by the sponsors of any kind of dredging operation which could be—I'm not sure of the exact figures, but twenty-five to fifty percent of the costs. The sponsor then would have to come up with additional costs to pay for it and also the federal government who is at least potentially contracted for the dredging operation. There are some that are being attempted to look at for other alternatives. For example, over in Louisiana, he mentioned that there was an vine island project which we had met with the Corps of Engineers with the government's House of Representative and the Governor has come up I think with some dollars to pay for the differential amount in order to carry it to the island out of one of those dredging operations. I think that the incentive is to there's some possibility of sharing the costs in looking for those alternatives.

Mr. **Nowak**. Yes, Dr. Foster.

Ms. **Foster**. Are you aware that the Corps of Engineers and National Marine Fisheries Service started about two years ago in 1985, a pilot study that was to show the feasibility of using their expertise and sometimes their dredge material and our expertise, scientific expertise, to see if we could create or restore habitat, threatened habitat, or any kind of habitat, and as an integral part of that doing business and in other words not—not—the part of the study was not designed to be a form of mitigation, but in fact anything that came out of it would be a net gain of habitat. So the object that we're looking at right now is to see if it's feasible to expand it from a pilot program to a nationwide program. And it might bear looking into that to see if there isn't something, somehow that we could do.

Mr. **Nowak**. Mr. Perez.

Mr. **Perez**. When we were working with the Corps of Engineers, we would often find ourselves at odds with them and pertaining to the type of material that he had available. In a lot of cases, we're looking at contaminants, we're looking at the placement of materials in areas that are very very protected because they are the marsh areas. They are already the Sea Grass areas. Because of this reason, like I said, we look at other alternatives, we'll look at other areas as a means of trying to preserve what we now have. One of these concerns that I have now is that the President has come out with a no net loss policy, but yet the regulations are—have not appeared. That's a big concern because I feel we are able to provide the federal agencies with a means to bring about that policy, that's not gonna happen. But as for the Fish and Wildlife and National Marine Fisheries Services, Corps of Engineers or whoever, until that's done, we are not gonna be implementing anything in the field. I'm a field supervisor, and until I get those orders, I will not be able to implement that policy.

Mr. **Nowak**. Well, but it sounds good. These are all interconnected really when you look at the—when you talking about moving that material outland because there's some toxins that you've discovered. You move it out there and put it in a landfill. Two and a half years later, it rains, it get's back into the stream or even perhaps worse, it gets into an aquifer, and you get the whole problem of how do we take care of that problem. I—it'll have to believe, however, that some of the nutrients that are falling down into the streams are settling on the bottom of all of these areas that are dredged throughout the United States are environmental safe. And hopefully, you know if that kind of material, I agree you know when he starts with a no net loss, it's meaningless, it's just you know talking about non-point source pollution. And we don't measure that very well, we don't have a program to fund it. And yet we're trying to retrieve other programs while you have the non-point pollution in the same situation it was in 1900. So no effort—and the studies are showing there's higher and higher rates coming in from non-point sources. The sewer—combined sewer overflows in many of our cities throughout the country in some areas are contributing more to the degradation of the rivers and streams than primary treatment plants ever did. And we've put in about fifty-five billion dollars worth of federal money to get into a secondary treatment plant which has low overall good effect because of the pollution through the overflow of the systems that exists in so many cities. A league of these cities have come to me and said you know don't worry about these other problems, just concentrate on combined sewerage overflow. And don't put any money into wetlands or any of those other little things. These are big problems that they have. And so you know we're trying to take a look at everything and we understand you know that some—the cost analysis and the cost benefit is gonna injure the Corps program, some areas where you have soil that you shouldn't put into a wetlands area. But on the other hand you know for seven thousand years we had the Mississippi and I suppose here in Texas that the water coming down is just filled with nutrients and testimony shows now that you're not getting as much as you did fifty years ago because of where these dam studies that have been put up and down handle the system. But there are some coming down. And it just seems to me it may be worth a little differential cost and maybe this is a program where the private sector would say if we're gonna manage or we're gonna take away here, maybe we'll contribute to your program on the other side so you can fill in and create new wetlands. They say you know that's not the best function, but they had no other choice. At least you've got a contribution of votes. Well let me turn to Mr. Hancock of Missouri.

Mr. **Hancock**. This may not be the right panel to ask this question of, but I think it is. You know now we've got a unique situation. At least we think it's unique here on Louisiana and Texas coast line, but let's move on down along the Mexican coast line. Have we taken a look at similar situations on a worldwide basis? What's being done in other areas? Are they experiencing the same problems? We introduce some things into this country like carp fish that cause a little bit of a problem so we want to take a real good look at it. But has there been anything done in this area looking at it from a worldwide standpoint. Does anybody on the panel want to answer that?

Mr. **Thomas**. Could I start it off because you have touched on something that is dear to our new Administrator's heart. And he is looking very closely in greater detail into the international aspects of pollution. Not only for the wetlands but also for acid rain and for other things that he's concerned with. So I think that the answer that I'd have to give right now in short would be, no, I don't know of anything that's going on in particular with the wetlands preservation, but I believe that our new Administrator would have that interest on an international basis.

Mr. **Hancock**. From the standpoint of the worldwide fishery industry Dr. Foster, are you familiar with any international studies?

Ms. **Foster**. There's an international organization called the International Union for the Conservation of Nature. And they're engaged right now in an effort to consider our concern about wetlands specifically. And they're engaged in an effort to look at what you just said—throughout every country in the world that has wetlands and compile a catalog and document their problems and try to figure out where an international effort should be placed toward the conservation of wetlands. Because they think it's more than just that specific problem. Sort of like the rain forest.

Mr. **Hancock**. One other comment, Mr. Hankla, you know we've always considered in the southern part of Missouri that Yankees are one of the best cash crops we have.

Mr. **Hankla**. I'm gonna pay dearly for that remark.

Mr. **Nowak**. Congressman Laughlin.

Mr. **Laughlin**. Mr. Fischgrabe, there's a large number of us in this room that are concerned about the Sargent Beach erosion and several of the witnesses have already mentioned it and even more have it in their formal statements and skipped over it with reference that others that mentioned it. In the very near future there will be some of us meeting in Bay City to talk about the specific Sargent Beach erosion. And I was wondering if you or someone from your Agency could attend that meeting?

Mr. **Fischgrabe**. Yes, sir, I'll assure you that we'll have someone there. We have folks that are, let's say our specialists, in water resources and erosions and troubles for shorelines and we'll have some of these folks there.

Mr. **Laughlin**. Some of those people are here and I'd like for you to visit with them for just a moment so that if you're not fully familiar with the nature of the problem that we're dealing with that you could go back to your office and help us find those witnesses or experts to come sit in on that meeting. It would be appreciated very much.

Mr. Thomas, you've mentioned both the EPA and the Corps of Engineers jointly issue the 404 permits and I was wondering, I was unfamiliar with that happening, I was wondering how you do it, if you overlap and would it be better to have one of your agencies rather than both of your agencies issuing that permit.

Mr. **Thomas**. Maybe the Colonel would also like to answer that question.

Mr. **Laughlin**. I was hoping that both of you would answer it because I——

Mr. **Thomas**. There is a joint administration; however, the Corps is the actual issuing agency. EPA has the responsibility to write the guidelines in which the Corps must follow. That's to B-1 guidelines that I alluded to. EPA also has the responsibility to review those permit applications that come in and have a responsibility to overrule through the 404(c) action if it is determined that it would be environmentally unsatisfactory to move forward with that project. But the issuing agency is the Corps of Engineers and they have guidelines in which they are supposed to follow as directed by Congress.

Mr. **Laughlin**. Colonel Tudela, does the Corps maintain a record of the accumulative wetland loss either through its projects or through any of the 404 projects?

Colonel **Tudela**. Through our regulatory program, we do maintain a record, sir.

Mr. **Laughlin**. Have you furnished that with your formal statement today?

Colonel **Tudela**. No, I did not, but I would be glad to do it.

Mr. **Laughlin**. Could you send that to the Committee?

Colonel **Tudela**. Yes, sir.

Mr. **Laughlin**. Thank you very much. Mr. Chairman, that's all the questions I have.

Mr. **Nowak**. Thank you very much. Again, we may—we will keep the record open and try to get back to you with some more you know, specifics and we have more time to review back in Washington and look at your testimony as against others that we've received throughout the country. From other districts we've heard there's a difference in the administration of this program depending on who is stronger in various federal offices citing problems that the landowner in Minnesota isn't treated the same as the one in Texas or the one in Alabama. So we are gonna try to look at that consistency problem too as we go through this whole process. But again thank you for your time and the testimony and we'll be looking forward to perhaps getting back to you in the near future. Thank you again

[The prepared statements of Colonel Tudela, Mr. Fisharabe, Mr. Thomas, Dr. Foster, and Mr. Hankla follow:]

Statement of Col. John A. Tudela

INTRODUCTION

Good morning, Mr. Chariman and Members of the Subcommittee, I am Colonel John A. Tudela, District Engineer of the Galveston District Corps of Engineers. I appreciate the opportunity to discuss with you the topics which are of daily concern to the Galveston District. Wetlands play an important role in the vitality of the coastal zone, and therefore to the economy and well-being of the coastal populace. Today I will briefly discuss our involvement in wetlands through our regulatory program, and then I will describe some of our activities related to coastal erosion.

REGULATORY PROGRAM

Wetlands are important to water quality, storage of flood waters, and other hydrological functions, as well as providing a crucial base for sport and commercial fisheries, wildlife populations, recreation, and cultural and aesthetic amenities. Our primary involvement with wetlands is through the administration of the regulatory program, basically under two authorities. The first is Section 10 of the Rivers and Harbors Act of 1899, which prohibits the obstruction or alteration of navigable waters of the United States without a permit from the Corps of Engineers, and the second is Section 404 of the Federal Water Pollution Control Act which prohibits the discharge of dredged or fill material into waters of the United States without a permit from the Corps of Engineers.

The Galveston District processes approximately 800 permit applications for the Texas coastal region each year. The decision to grant a permit is based on a full range of public interest factors for both the protection and utilization of water resources, and, for 404 permits, a determination that the proposed activity meets the requirements of the 404(b)(1) Guidelines. It is often very difficult to make a choice between wetlands and other essential public interest factors such as property rights, agriculture, public health and safety, recreation, flood control, navigation, mineral development, and many others. Our goal is to strike a proper balance among the copeting interests for the use and protection of these important resources.

SHORELINE EROSION

Along Texas' 400 miles of Gulf shoreline, approximately 60 percent is eroding, one-thired is stable, and 7 percent, mostly in the vicinity of erosion control structures, is building. The erosion rates along the coast vary from 1 foot or less per year to rates greater than 50 feet per year in recent years at Sargent Beach, only 80 miles southeast of Port Lavaca. The erosion in the Sargent area is unprecedented along the Texas coast and it happens to be occurring where the gulf Intracoastal Waterway (GIWW) parallels the shoreline for about 7 miles. The distance from the Gulf waters to the GIWW was 650 feet at its closest point in Janaury 1989. If the high erosion rate continues, we estimate that this vital economic artery for the lower coast from Freeport to Brownsville would be jeopardized by breaching soon after the turn of the century.

SAN BERNARD NATIONAL WILDLIFE REFUGE

Just to the east of the Sargent area, the GIWW crosses just south of the 24,000-acre San Bernard National Wildlife Refuge. If the waterway has to be relocated north in response to the shore erosion problems in the Sargent area, the San Bernard Refuge could be impacted.

ARANSAS NATIONAL WILDLIFE REFUGE

Further to the west along the GIWW from the Sargent area is the Aransas National Wildlife Refuge. It provides the wintering area for the rare and endangered whooping crane whose population was a mere 19 birds in the early 1940's, but through conservation efforts, the numbers have increased steadily and over 130 whooping cranes spent this past winter in the Aransas-San Antonio Bay area. The GIWW passes through 11 miles of the refuge; however, the critical habitat of the whooping crane extends eastward to involve over 30 miles of the waterway. Erosion is occuring along the waterway from navigation traffic as well as natural processes.

GIWW STUDIES

We have studies and planning activites underway to address the problems in the Aransas and Sargent areas, as well as along the entire GIWW. The waterway is of national importance for economic, as well as defense reasons, and it is our mandate to assure the continued usage of this waterway system. We began a 3study this past November to evaluate means of reducing adjacent wetland losses, possible restoration, and the development of a long-term plan for placement and beneficial uses of maintenance material which accumulates in the navigation channel. Fiscal Year 1989 funds are being used to fully fund, at Federal expense, the reconnaissance phase of studies of the Sargent and Aransas areas and an initial appraisal of the entire Texas section of the GIWW which will be completed in November 1989. Funds are requested for FY 1990 to initiate the feasibility phase of the studies for the Sargent Beach and Aransas areas. The studies for the Sargent and Aransas areas are scheduled to be completed in 1991 and 1992, respectively.

MATAGORDA COUNTY SHORE STUDY

Future and separate actions will also address shore erosion problems in Matagorda County other than in the Sargent Beach area along the Gulf shoreline. The area adjacent to the mouth of the Colorado River and other shores will be examined for potential beach erosion control and storm damange prevention projects. Funds are requested for 1990 to initiate and complete reconnaissance studies to identify the cause of the problem; determine and evaluate potential solutions; and determine Federal and non-Federal interest in controlling the erosion and preventing damage to onshore development.

CORPS OF ENGINEERS LABORATORIES

We have a number of other activities presently ongoing in the coastal area and others coming up in the near future that have specific relevance to this hearing today. We are fortunate to be able to call upon the expertise of specialized research and development laboratories of the Corps of Engineers at the Waterways Experiment Station in Vicksburg, Mississippi, to provide a systhesis of workable solutions developed from experience in other coastal areas. These laboratories include the Coastal Engineering Research Center. We frequently call upon staff personnel from this laboratory and others for assistance. For example, we had a team from Vicksburg in the Aransas National Wildlife Refuge 3 weeks ago to assess possible short-term solutions to the erosion problem as well as long-term solutions.

BENEFICIAL USES OF DREDGED MATERIAL

One important factor that is often overlooked because of the negative connotation of dredged material, is its beneficial uses. We hosted a regional workshop on the beneficial uses of dredged material in 1988 in Galveston for the Gulf coast. The use of dredged material as a resource is an opportunity that has been essentially untapped. I am confident that you will be hearing a great deal of progress in this area in the future. As an example, we conducted prototype experiments of the uses of derdged material form the Brownsville Ship Channel by depositing over 500,000 cubic yards of material in 15–20 feet of water near the Brazos Island Harbor Channel. The feeder berm that was created about ½ mile offshore will allow natural wave action to move the material onto the beach. The preliminary results are very promising for use in other areas on South Padre Island, and lessons learned there may be applicable to areas along other portions of the coast. We are encouraged about the potential for the beneficial uses of dredged material, both on the open coast and in the bays through wetland creation and stabilization and shrimp mariculture in inactive dredged material containment areas, as well as other uses.

CONCLUSION

In conclusion, wetlands are an important national resource. Coastal erosion affects wetlands and other aquatic resources and is a formidable foe in that it never rests and to offset it, the costs of solutions are often extreme. Each area must be addressed independently, being careful to take into account all costs—structural, environmental, and social. Galveston District's objective is to balance costs, environmental factors, social preferences, and the protection of property as to best serve the National interest.

Thank you very much. Mr. Chairman, that concludes may presentation. I will be happy to answer any questions that you or member of the Subcommittee might have.

STATEMENT BY DALE FISCHGRABE, DEPUTY STATE CONSERVATIONIST, SOIL CONSERVATION SERVICE [SCS]

Mr. Chariman, Members of the Committee, I am Dale Fischgrabe, Deputy State Conservationist for USDA-Soil Conservation Service in Texas. Wes Oneth, State Conservationist, would have liked to have been here, but due to earlier commitments, he is in Oklahoma City, Oklahoma, today.

I am happy to have the opportunity to discuss the ongoing programs and activities that are available in SCS in Texas to assist in reducing wetland losses as well as activities that may have historically contributed to their losses.

First, I would like to bring you up-to-date on the policy SCS has worked under for the past 15 years. We only provide assistance on Type 1 and Type 2 Wetlands as outlined in U.S. Fish and Wildlife's Circular 39, Wetlands of the United States.

When assistance is provided for new construction in wetland Types 1 and 2, it is based on a documented environmental evaluation that reveals:

1. No other practicable alternative.
2. The proposed action, if implemented, will minimally harm the wetlands.
3. The land has been cultivated to produce food, feed, fiber, and/or oilseed for at least 3 of the 5 years before the request for assistance. Native pastures, native prairies, forestlands, and rangelands are not included.
4. All necessary local, state, and federal permits have been obtained, or the land user has been assured by appropriate agencies that a permit is not needed.

Land users being assisted by SCS with any construction, are advised to inquire about a 404 Permit from the U.S. Army Corps of Engineers.

SCS is also concerned about quality of wetlands. Cooperative studies with the Texas Agricultural Experiment Station (TAES) and rice farmers have resutled in three basic recommendations to reduce environmental degradation of coastal marshes and estuaries.

SCS works with rice growers to achieve adherence to pesticide labels, use of minimum amount of irrigation water, and maintenance of adequate levee freeboard to contain and utilize rainfall.

A cooperative study is being developed with SCS, Lower Colorado River Authority (LCRA), TAES, Soil and Water Conservation Districts (SWCDs), and local rice growers to monitor quality of runoff, whether irrigation or rainfall, to seek further ways to improve downstream water quality. From this, recommendations are made to farmers on how to reduce pesticide, fertilizer, and irrigation water amounts to improve water quality. This activity should greatly enhance the quality of wetlands.

Under the Provisions of the Food Security Act of 1985, SCS has certain responsibilities that have an impact on wetlands. We have the responsibility of identifying wetlands on all cropland, potential cropland, and wetlands adjacent to cropland. This is to be completed by December 31, 1991. We in Texas are well on our way to accomplishing this task. We have established a mapping convention (methodology) and are using a team approach to complete the task of mapping the wetlands in several of the coastal counties. We have completed the mapping in Waller and Fort Bend Counties. We are in the process of mapping Liberty, Harris, Matagorda, and Jackson Counties.

Two counties, Jefferson and Orange, are having soils re-mapped. The soil scientists are mapping the wetlands as they map the soils.

Most of the offices along the Texas coast have made all the wetlands determinations as required by the Food Security Act of 1985.

Also, the SCS has a role in the Conservation Reserve Program (CRP) as it applies to wetlands. In the eighth signup, the Secretary of Agriculture established two new criteria for eligibility. (1) Farmed wetlands and (2) Scour Erosion due to out-of-bank stream flow. We assume that there may be a larger signup in July when producers have had a greater opportunity to learn about the new criteria.

The Secretary of Agriculture is authorized to continue signup for CRP until the end of crop year 1990. SCS will be working with landowners who have farmed wetlands and encourage them to participate in the program.

Farmed wetlands in the CFP must be planted to a tree species approved by SCS and SCS in Texas has required that these CRP lands be established to Bottomland hardwoods if the site supported hardwoods under natural conditions. When the land is established to hardwoods, it has a better chance of staying in trees after the contract expires in 10 years.

Another part of the CRP program allows a producer with eligible CRP land to establish, develop or restore shallow water areas for wildlife. Through the seventh signup in the CRP, Texas had 17 structures constructed at a cost of $15,263.

In the mid-1960's, the natural entrance to the approximate 41,000 acre coastal marshlands, known as the Keith Lake Complex, was closed by spoil placement during dredging of Port Arthur Ship Channel. During this dredging, a weir was constructed at the north entrance of the complex to allow the passage of shrimp larvae and other marine animals between the complex and Gulf of Mexico. This meant that any fish entering or leaving the complex must now travel an additional eight miles to reach the Gulf. Many species did not survive the longer trip.

A joint effort was initiated in 1977 between the Coastal Soil and Water Conservation District, the Texas Parks and Wildlife Department, and the Soil Conservation Service to construct a channel through the spoil area to reopen the natural passage to the Gulf. This is known as the Keith Lake Water Exchange Pass. It is in Jefferson County, Texas, and is the connecting link between the eastern end of Keith Lake and western bank of Port Arthur Ship Channel. The exchange pass lies between Sabine Pass and Port Arthur adjacent to Texas Highway 87. The area is in the southeast corner of the Southeast Texas Resource Conservation and Development (RC&D) area.

The pass is 3,100 feet long by 150 feet wide and 6–8 feet deep. Through the RC&D program, the cost of $288,200 was divided equally between the Texas Parks and Wildlife Department and the Soil Conservation Service.

The project is functioning as intended and has provided a vastly improved habitat in the marshland complex. The pas is being operated and maintained by the Texas Parks and Wildlife Department assisted by the directors of the Coastal Soil & Water Conservation District.

The shoreline is eroding at various rates along the 400 plus nautical miles of Texas Gulf coastline. Because of the magnitude of this loss, SWCD's and the SCS have attempted various techniques to stop, or at least slow, the progressive march of the Gulf inward.

During the early 80's, District Conservationist Eddie Siedensticker and the Trinity Bay SWCD proved that *Spartina alterniflora,* smooth cordgrass, could be effectively used if low cost wave stilling devices could be used in conjunction with the transplanting of the grass. Surplus cargo parachutes cut in three foot wide strips and attached posts outside the planting area were found to be effective when used to protect the new transplants of smooth cordgrass. Since this breakthrough, five demonstration plantings were installed in Chambers County and nine others from Brazoria County to Calhoun County to show the use of smooth cordgrass and wave-stilling parachutes and fence materials. In 1989, another demonstration project was planned for installation in San Patricio County.

We learned about a new challenge last year that will make a selection of smooth cordgrass more important in Texas. A stem fungus, *Rhizoctonia* seems to attack natural smooth cordgrass stands and wipe out large areas. Naturally resistant varieties have been located and transplanted at four nursery sites in four counties along the coast to study their ability to resist the fungus. These were transplanted this year (1989).

Evaluations will continue on a released variety of smooth cordgrass—'Vermilion' (originally collected from Vermilion Bay, LA) for its adaptability in Texas, and on other methods of propagation.

The South Texas Plant Materials Center at Kingsville, Texas has been established to develop better adapted marsh plants. The SCS is participating in the Glaveston Bay Estuary Program which is a part of the National Estuary Program. We are represented on the scientific and technical advisory committee and the policy committee.

We are cooperating with the U.S. Fish and Wildlife Service in the North American Waterfowl Management by encouraging private landowners to take advantage of the opportunity to assist in providing food, water, and cover for waterfowl.

Mr. Chairman, this concludes my remarks. I will be glad to answer any questions.

STATEMENT OF NORM THOMAS, CHIEF, FEDERAL ACTIVITIES BRANCH, U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 6, DALLAS, TX

Good Morning, Mr. Chairman and members of the committee, I am Norm Thomas, Chief of the Federal Activities Branch, of the Environmental Protection Agency, Region 6 Office, in Dallas, TX. My prepared remarks will address the Region's role in Wetlands Protection, with special emphasis on Coastal Erosion and Wetlands loss in Texas.

The Coastal Ecosystems of Texas include Barrier Islands, tidal and mud flats, wetlands, vegetated tidelands, mangrove swamps and seagrass systems. Wetlands loss along the Texas Gulf Coast and Inland Bays and Estuaries need attention. Salinity, soil erosion, and sedimentation are major problems contributing to the depletion and degradation of this valuable resource.

It is estimated that there are 2,500 miles of tidal shorelines in Texas, and 60 percent of this shoreline is eroding. During the period between the early 1800's and 1900's the shoreline of Texas moved an average of 2.2 feet per year landward, causing the loss of hundreds of square miles of shoreline. The rate of shorline erosion coupled with subsidence has increased that rate to more than 2.4 feet per year since 1930.

The loss of viable agricultural, residential and industrial land represents the loss of millions of dollars in revenues each year for the State. In addition to the loss of agricultural and commercial land, shoreline erosion has an adverse affect on marine plant and animal life along the many miles of channels, bays, and estuaries on the upper gulf coast.

Texas has seven major estuarine systems located along it's shores. These areas provide $173 million to the state each year from fish and shellfish production. These areas serve as nursery and feeding grounds for many different types of marine and estuarine dependent speices. The State's fishing industry is being significantly affected as productive estuaries are destroyed by the erosion process. When bay fronts erode, the usual result is the formation of a sterile mudflat with no vegetation and few organisms. As shoreline positions change, there is a real threat to public and private investments located along these areas.

In addition to natural causes, the Texas coast has experienced losses from man-induced activities. Reservoir projects proposed to meet the great upstream demand for freshwater, could greatly reduce the freshwater inflows that maintain the productivity of these estuarine areas. These reductions may have adverse impacts on the biological, economic, and social values along the Texas coast. A decline in the vigor of the delta marshes could easily cause their eventual conversion to open water due to salinity stress and sediment starvation. Each acre of marsh produces up to $8,000 worth of sport and commercial fisheries. Without adequate nutrient input and the loss of marsh nursery areas, shellfish and finfish production may fall below a profitable commercial harvest. Continued development in coastal areas will impact natural systems by reducing their functional values of water quality, wildlife and fisheries habitat, and erosion protection from wind and wave action.

In 1986, in recognition of the importance of our Nation's wetlands, EPA elevated it's Wetland Division into an Office of Wetland Protection to expand and emphasize wetland protection goals. The region 6 Wetland Protection Program was developed similarly to other regions. The program encompasses permit review, enforcement, advance planning, and public outreach. Program planning is comprehensive and well-documented, with annual goals, tasks and assignments, and operating procedures clearly spelled out. Regional program guidance is being developed for major activities (such as the advanced identification studies). An automated data system has been developed and is operational in tracking permit reviews, enforcement actions, and regulated weland losses by type and geographical area (water body, county, corps district).

Under section 404 of the Clean Water Act, EPA and the US. Army Corps of Engineers [Corps] jointly administer a permit program that provides for the issuance of permits that allow the placement of dredged and fill materials into waters of the United States. Our regulatory efforts have focued on the review of over 1,000 individual coastal permits each year through compliance with the 404(B)(1) guidelines. The guidelines apply site specific criteria for establishing appropriate conditions to minimize unacceptable effects on the aquatic ecosystem. A memorandum of agreement [MOA] between the corps and EPA provides a process of resolving issues. It is recognized that EPA has the ultimate authority with regard to prohibition of discharges into waters of the United States. Increased emphasis is being placed on enforcement of unpermitted activities.

A 404 Enforcement Program has been initiated with actions underway involving administrative orders and penalties, and a civil referral. An enforcement MOA is in place with the corps's southwestern division. The region is strengthening its enforcement program to derive additional benefits in restoring wetlands, reducing noncompliance, promoting public understanding of wetlands through media attention, and building better interagency relations with State and Federal resource agencies.

Advanced identification studies [ADID] have been initiated for coastal and inland Texas. The coastal ADID study is located on the western end of Bolivar Pennninsula on the Gulf of Mexico, near Port Bolivar, TX. ADID is used to identify sensitive wetland areas. The studies are designed to protect valuable and vulnerable aquatic resources by providing planning (detailed maps) and functional value information to the public regarding the importance of wetlands. The program provides the opportunity to integrate the shared goals of EPA programs with those of other Federal, State and local governments to achieve mutual goals. Other benefits from conducting an ADID are:

1. Predictability in the 404 Permit Program. Time and money is saved in guiding fill activities to suitable areas.
2. A mechanism to educate the public concerning the values of wetlands and their applicable regulations.
3. Resolution of permitting conflicts before they become acute and resource intensive.
4. Reduction in enforcment actions.

The growing damage to bay front property has generated a host of makeshift solutions to curtail erosion. Ranchers have tried everything from placing tractor tires, rusting truck bodies, and huge slabs of concrete along the shoreline to slow erosion. Continuous wave actions tunnel around these artificial barriers and create small bluffs. Bulkheads have been successfully used, but are prohibitively expensive for widespread use. We have recently entered into an interagency agreement with the U.S. Soil Conservation Service [SCS] to participate in several field trials along the Texas gulf coast to evaluate the effectiveness of low cost measures in controlling coastal erosion. A combination of vegetative and structural methods are being used to control bluff and beach erosion, along intercoastal and intracoastal streams and estuaries.

The wetlands protection program achieves three environmental themes that have been enunciated by the new EPA Administrator, William Reilly, including controlling pollution, renewing our commitment to natural resource conservation, and better enforcement. These themes are consistent with the findings of the national wetland policy forum which was published last fall. The recommendations of the forum called for increased planning efforts, development of State weland protection plans and increased levels of enforcement. The forum also recommended a goal of "no overall net loss" of wetland resource in terms of acreage and function. President Bush has called for the establishment of an interagency task force under the domestic policy council to recommend ways to revise the executive order on wetlands and strengthen agency activities with respect to wetlands. We are ready to work with other agencies to sort out the many complex issues that we face in implementing this concept.

In the region, we have expanded our wetland protection program activities over the last two years and are now involved to some level, in all aspects of wetland protection. Specifically, we have an active enforcement program; we are involved in two advanced identification study efforts in Texas; we are providing technical oversite of the corps permitting efforts; and are also involved in public education through public outreach program; and encouraging State and local planning efforts in managing coastal areas.

This concludes my formal remarks, I would be pleased to answer any questions you have have.

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STATEMENT OF DR. NANCY FOSTER, DIRECTOR, OFFICE OF PROTECTED RESOURCES AND HABITAT PROGRAMS, NATIONAL MARINE FISHERIES SERVICE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, U.S. DEPARTMENT OF COMMERCE

Good morning. I'm Dr. Nancy Foster, Director of the Office of Protected Resources and Habitat Programs, National Marine Fisheries Service (NMFS). I appreciate the opportunity to appear before the Subcommittee today to discuss wetland programs of the National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce, and wetland and coastal erosion issues in Texas.

Over 45% of the coastal wetlands remaining in the contiguous United States are in the Gulf of Mexico region, and approximately 10% of those (or 4.5% of the U.S. total) occur along Texas' coast. The Gulf of Mexico and its coastal margins are extremely productive marine environments, yielding nearly 2.5 billion pounds of commercial fishery landings valued at approximately $700 million, annually. During 1987, Texas, alone, accounted for 111 million pounds of commercially-landed fish and shellfish with a dockside value of $200 million. The direct economic value of recreational fishery landings in Texas was estimated to be $364 million for 1986.

As I will discuss in more detail in a moment, most of these commercial and recreational catches are composed of species which are spawned or reared in and around tidal wetlands. Coastal wetlands also provide aesthetic and recreational enjoyment, protection from storm tides and waves, provide a buffer for sea level rise, and help to filter sediments and toxic substances from agricultural and urban runoff.

Recent estimates have indicated a significant loss of Texas coastal wetlands. The Texas Parks and Wildlife Department has estimated that as much as 35% of the nearly one million acres of coastal marshlands reported in Texas in the mid-1950's disappeared by the mid-1970's. The Texas Wetlands Plan asserts that ". . . much of the remaining acreage has been seriously degraded by saltwater intrusion due to canals, channels, drainage ditches and by land subsidence and groundwater depletion; by inadequate freshwater inflows due to upstream water projects (dams) and the alteration of natural hydrology; and by pollution from industry shipping and urbanization." Additional data indicate that between 1956 and 1979, 16% of the estuarine marshes and 24% of the freshwater marshes of Galveston Bay were lost. These coastal habitat losses threaten extremely valuable fish and wildlife resources.

THE NATIONAL MARINE FISHERIES SERVICE

As the steward of the Nation's living marine resources, the National Marine Fisheries Service is responsible for habitat conservation, the management of living marine resources in the U.S. Exclusive Economic Zone (from the seaward boundary of coastal States to 200 miles offshore), and the protection of certain marine mammals and endangered species. Our habitat conservation responsibilities encompas coastal areas and estuaries, and upstream as far as necessary to protect anadromous species' spawning grounds. In carrying out this responsibility, our efforts are directed at protecting and conserving coastal, estuarine, and riverine wetland areas of the United States.

Estuarine and coastal wetlands provide habitat essential for the maintenance and productivity of the Nation's living marine resources. Approximately 70% of commercially and recreationally important fish and shellfish species in the U.S. spend a critical part of their life in estuarine and nearshore areas. These species, referred to as "estuarine-dependent", include red drum, menhaden, sea trout, flounder, shrimp, crabs, oysters, and clams. Many inland and riverine wetlands also support anadromous species, such as striped bass, herring, shad, salmon and sturgeon. Indeed, about 98 percent of all commercial fish landings and 70 percent of recreational landings, from the Gulf of Mexico, consist of species that are dependent on estuarine habitats, including wetlands.

Conservation of these habitats, therefore, is a primary goal of the NMFS Habitat Conservation Program. Habitat conservation activities are carried out nationwide as a part of our overall fisheries research and management program, and are guided by our Habitat Conservation Policy, which was published in the *Federal Register* in 1983. The goal of this Policy is to maintain or enhance the capability of the environment to support living marine resources under NMFS' purview. This goal is consistent with President Bush's stated goal of "no net loss" of wetland habitat. In fact, our habitat conservation efforts are not limited to only "wetlands", but encompass all habitats important to living marine resources.

In analyzing activities that may affect wetlands, it is NOAA's goal to maintain existing wetlands, and, only as a last resort, replace lost wetlands with those which are functionally equivalent. We believe this is best achieved by looking mitigation as a sequenced process. First, we attempt to avoid the impact altogether by considering alternatives. If impacts are determined to be unavoidable, efforts should be made to minimize the effect, restore the affected habitat, reduce the impact over time, or, as a final option, replace the habitat. The NMFS Habitat Conservation Program has a cadre of leading scientists who are developing the technical basis necessary to establish criteria for defining acceptable replacement habitat and evaluating the success of current restoration and creation efforts. Relevant research activities include studies of recruitment of larvae into estuaries; use of wetland habitats by fishery organisms; the extent to which fish and shellfish use detrital material; evaluation of impacts of altered freshwater inflow; research on the ecological value of mitigated and created habitats; and synthesis of information on wetland acreage and fishery species life history.

In 1985, the Department of the Army Corps of Engineers and NOAA signed a Memorandum of Agreement initiating a three-year pilot study to look into the feasibility of a cooperative national program between NOAA and the Corps to restore and create fisheries habitats. The agreement combined our technical fisheries expertise with the Corps' water resource planning, engineering, and construction expertise and capability. Work done under this agreement was conducted in conjuction with ongoing Corps projects and involved experimental modifications of project design in an effort to enhance habitat and thereby increase the production and abundance of important coastal fishery species. The pilot study was completed last October, and final recommendations are expected in the near future.

Under the provisions of the Fish and Wildlife Coordination Act (FWCA) and the Clean Water Act (CWA), NMFS consults with the Federal water resource construction and regulatory agencies to provide technical and scientific advice for protecting, managing, and conserving habitats of living marine resources which may be altered by proposed activites. Since the formation of NOAA in 1970, we have provided analyses and recommendations on approximately 150,000 Federal projects and Federal permit and license applications. Between 1981 and 1987, staff of the NMFS Southeast Regional Office evaluated over 31,000 Corps Section 10 and Section 404 permit applications to dredge, fill, or otherwise alter over 300,000 acres of marine and coastal waters and wetland. Among these permit applications, were requests to impound 121,474 acres of wetland. Most of these impoundment requests are for marsh management. There are increasing requests to allow construction of levees and water control structures, to "manage" marshes that are deteriorating due to man-made causes, erosion, or subsidence. We are working with State and Federal agencies and landowners to insure that management plans benefit wetland vegetation and allow for continued access by marine and estuarine-dependent fish and shellfish.

The NMFS has also been actively supporting opportunities to return river flows, that were previously diverted to the Gulf, back into their original estuarine receiving waters. Work currently underway to return all of the Colorado River flow to Matagorda Bay includes a major fishery and wetland enhancement project. The recommended paln will reduce salinity and increase nutrient input to the Bay. A delta, of approximately 2,000 acres of low marshlands, should develop over the next 50 years.

We are also working closely with Federal, State and local agencies to develop coastal erosion remedies along the Gulf Intracoastal Waterway, especially those reaches near Sargent, Texas and through the Arkansas National Wildlife Refuge. Efforts are underway to ensure that bank stabilization are conducted in a manner that will minimize removal of degradation of marsh, seagrasses, and oyster reefs; the redistribution of river waters, turbidity, sediments, and pollutants between estuaries; and interdiction of tributaries flowing into various bays.

THE NATIONAL OCEAN SERVICE

The technical and scientific advice provided by NMFS habitat personnel are supported not only by the work of NMFS researchers, but oftentimes by other NOAA scientists as well. Scientists from NMFS and NOAA's National Ocean Service (NOS) are collaborating on the first comprehensive and consistently derived data base of the areal extent and distribution of coastal wetlands in the coterminous United States (excluding the Great Lakes). This data base uses a dot-grid matrix approach to sample Fish and Wildlife Service National Wetland Inventory maps. A series of atlases and reports have been produced including summaries of wetland acreage by estuary, and by coastal county, for the Gulf Coast. These coastal wetlands inventories will be incorporated into NOAA's National Estuarine Inventory, along with physical, hydrologic, biological, and economic information, to provide a more comprehensive illustration of the Nation's estuarine environments.

NMFS and NOS have begun to compile data on the life history, distribution, and abundance of 35 fish and invertebrate species in 13 estuaries in the Gulf of Mexico. The completed data base will be part of a National Inventory, which will enable comparisons among species or species groups, specific life stages, estuaries, and geographic areas. Additionally, NOS is establishing an accurate baseline and points of reference for wetlands management planning. One effort involves the accurate monitoring of vertical shoreline movement, coastal erosion, subsidence-accretion, and uplift. The data base will help planners to assess and accurately define the impact of severe storms, other natural processes, and human activity on shoreline erosion and to assess resulting physical alteration of wetlands and economic impact.

In 1987, NOS and the Department of Energy initiated a joint pilot program, the global absolute sea level network, to accurately predict the amount of coastal lands, particularly wetlands, that may be lost due to global warming. The accumulated time-series of absolute sea level data being initiated by NOAA will provide a unique set of data for verifying and calibrating coupled oceanic-atmospheric models required to study the dynamics of the global climate system. The data set provides scientists with the information to distinguish the components of relative sea level variations due to vertical land movement and global sea level rise for the coastal ocean.

In order to provide near real-time data on coastal ocean phenomena, NOAA has developed a prototype predictive program called CoastWatch. CoastWatch is designed to rapidly monitor coastal water and land to support environmental science and decision-making. A pilot project to monitor algal biomass and losses or gains in coastal wetlands has been initiated along the mid-Atlantic coast. A similar program, proposed for the Gulf of Mexico, would look at anoxia and hypoxia events and wetland losses. NOAA intends to monitor changes in upland cover and gains and losses of coastal wetlands every 2 to 5 years. This land cover/habitat data coupled with ecological information will be used to quantify and assess the impacts of habitat loss on fishery resources.

THE OFFICE OF OCEANIC AND ATMOSPHERIC RESEARCH

NOAA's Office of Oceanic and Atmospheric Research (OAR) supports research programs to provide the scientific and technological basis for improving NOAA's services and products. NOAA's research is designed to improve scientific understanding of physical processes, ecosystem dynamics, and living marine resources. OAR-sponsored research is carried out by its Environmental Research Laboratories and National Sea Grant College universities. In FY 1988, Sea Grant's environmental program included $2.3 million worth of wetland-related research, consisting of 42 projects conducted by 17 Sea Grant programs. The Texas Sea Grant College Program is cooperating with Federal, State, and local efforts involving low cost shore erosion control, habitat enhancement, bank stabilization along the Gulf and Intracoastal Waterway, and the EPA's National Estuary Program for Galveston Bay.

THE OFFICE OF OCEAN AND COASTAL RESOURCE MANAGEMENT

NOAA's Coastal Zone Management Program provides grants and technical assistance to States and territories to manage their respective coastal areas under the auspices of approved State Coastal Zone Management Plans. These plans are designed to implement programs which balance the use and conservation of coastal and ocean resources. The Coastal Zone Management Act declares that "it is the national policy to preserve, protect, develop, and where possible, to restore or enhance, the resources of the Nation's coastal zone. . .". The protection of wetlands has been a major element of all Federally-approved Plans. Among Gulf States, Louisiana, Florida, Alabama, and Mississippi have approved Coastal Management Plans. Grants are available to these States to preserve areas that contain significant coastal resources, redevelop deteriorating urban waterfronts, provide access to public beaches or estuarine areas, and to streamline permitting procedures required by the various agencies with jurisdiction over development activities in the coastal area.

NOAA's National Estuarine Research Reserve System, authorized by the Coastal Zone Management Act, has played a direct role in protecting and improving the estuarine environment. With the States' cooperation, we have established a system of seventeen reserves in fifteen States. These research reserves include over 300,000 acres of estuarine land and water. Management consists of environmental education activities, research focussing on estuarine issues, and facilitating coordination among Federal and State regulatory agencies. Management also strives to enhance protection of estuarine living resources and habitats through appropriate monitoring, and contingency planning. Applied research supported by the reserve program addresses important coastal management issues, including the decline of seagrass, methods for restoration of habitats, and the effects of road construction and increased urbanization on estuarine ecosystems. There are currently three estuarine research reserves in the Gulf of Mexico, Rookery Bay and Apalachicola Bay, Florida, and Weeks Bay, Alabama.

Understanding the effects of losing or modifying marine habitats as a result of human activities is one of six goals established for Federal programs in the National Marine Pollution Program—Federal Plan for Ocean Pollution Research, Development and Monitoring (FY 1988-1992). This plan was prepared by NOAA in cooperation with the interagency National Pollution Policy Board as required under the National Ocean Pollution Planning Act (P.L. 95-273, as amended) and was delivered to Congress earlier this year. The Plan recommends the formation of an interagency working group to promote coordination of studies on habitat loss and modification. At the May meeting, discussions will be initiated on improving wetlands mapping, documenting habitat loss rates and patterns, research on habitat functions, and effectiveness of habitat restoration and mitigation practices. As indicated by my testimony, much of NOAA's work involves wetland resources. Virtually all NOAA line offices contribute to efforts to conserve, manage, restore, and enhance wetlands.

President Bush has established "no net loss" of wetlands as a national goal. Through the Domestic Policy Council, the Administration is establishing a Wetlands Task Force to work towards this goal. NOAA and EPA both have testified that the Federal resource and regulatory agencies must work together to address the complex issues inherent in implementing this goal. NOAA looks forward to participating in the inter-agency task force on wetlands, revising the Executive Order on Wetlands, establishing "no net loss" as a national goal and coordinating and assessing implementation of the "no net loss" goal.

Mr. Chairman, that concludes my statement. I will be happy to answer any questions you or Members of the Subcommittee may have.

STATEMENT OF DAVE HANKLA, FIELD SUPERVISOR, CLEAR LAKE, TX, U.S. FISH AND WILDLIFE SERVICE, DEPARTMENT OF THE INTERIOR

Mr. Chairman and members of the Subcommittee, my name is David Hankla. I am the supervisor for the U.S. Fish and Wildlife Service (Service) field office in Houston, Texas, which serves the upper Texas coast. Mr. Roy Perez is also in attendance. He is the field supervisor for the Service's field office in Corpus Christi which serves the lower Texas coast.

We appreciate the opportunity to appear before you today to present this testimony. Our testimony will address the major causes of coastal wetland losses in Texas. I have worked on wetland issues in the coastal states of the United States for 10 years, and Mr. Perez has worked on wetland issues along the Texas coast for 13 years. Jointly, we coordinate Federal permit and project review work affecting 500,000 acres of coastal wetlands.

COASTAL WETLAND VALUES

Although wetlands in Texas comprise less than 5 percent of the State's total land surface area, Texas is one of 19 states which have exhibited the most significant losses of wetland ecosystems. The major wetland ecosystems of Texas include: the coastal marshes and estuaries; bottomland hardwoods and other forested wetlands that are concentrated in the pineywoods region; the playa lakes concentrated in the Panhandle; and Lower Rio Grande Valley potholes and live oak potholes along the lower Texas coast. The broad range of wetland types provides for great diversity in plant and animal species inhabiting or utilizing wetland. These wetland ecosystems are extremely important to North American waterfowl because Texas is the primary overwintering area for waterfowl in the Central Flyway. For example, two-thirds of the redhead ducks of North America winter in the Laguana Madre of Texas.

Seven major bay systems are located along the Texas coast. All are surrounded by wetlands and all support commercial and recreational fisheries of national prominence. Galveston Bay is an estuary of national significance and has been included in the National Estuary Program. These bay systems, particularly the ones along the upper coast, are fed by large rivers supporting about 1.5 million acres of bottomland hardwood wetlands.

Current data indicate that 80 percent of the white-fronted geese and snow/blue geese in the Central Flyway utilize the Texas coast or near coast areas during winter months. Over 60 percent of seven species of puddle ducks (mallard, pintail, gadwall, green-winged teal, shoveler, widgeon, and mottled duck) in the Central Flyway winter in the Texas coastal area. Approximately 95 percent of three diver species (redhead, canvasback, and scaup) winter in the area.

Many recreationally and commercially important fishes and invertebrates use wetlands as nursery and/or spawning grounds. Approximately 98 million pounds of seafood with an averge commercial value of $175 million are reported landed in Texas annually. Estuarine-dependent shrimp constitute about 84 percent of these total landings and 93 percent of total commercial value.

The productivity of coastal marshes subject to river and tidal flooding is not utilized directly by the animals, but indirectly through the decomposition of plant tissues into detritus. Detritus is an important link in many aquatic food chains. Cordgrasses are a main contributor in the upper Texas coast, while seagrasses and algal mats are principal contributors along the lower Texas coast.

The coast of Texas covers more than 400 miles. The estuaries, bayside marshes, seashore and islands of the coast are important wintering, feeding, and breeding grounds for many unique species. The whooping crane is among the best known of the endangered species that utilize the Texas coast, but others such as the reddish egret and the brown pelican are also dependent on these valuable wetlands.

WETLAND TRENDS

In 1956, the Service estimated that Texas coastal marshes, i.e., fresh, brackish, and saltmarshes, totaled about 937,400 acres. The Texas Parks and Wildlife Department (TPWD) 1980 estimate was 611,760 acres of coastal marshes. If the TPWD estimate of 611,760 acres is used, then a 35 percent loss of coastal marshland acreage occurred in Texas between the mid-1950's and the mid-1970's. Much of the remainign acreage has been impacted by saltwater intrusion due to canals, channels, drainage ditches, and by land subsidence and groundwater depletion; by inadequate freshwater inflows due to upstream water development projects (dams) and the alteration of natural hydrology; and by pollution from industry, shipping, and development. Texas is one of the five coastal states with the greatest estuarine wetland losses. The majority of these losses from the 1950's to the 1970's are attributed to urbanization and development. Additional marsh acreage has been lost since the mid-1970's.

SERVICE ROLE IN WETLAND PROTECTION AND MANAGEMENT PROGRAMS

The Service has had a broad and long-standing commitment to wetlands protection, management, restoration and enhancement. As evidence of this commitment, we offer the following examples of current Service activities related to the wetland resources of the Texas coast.

Refuge lands

In recognition of the public benefits of wetlands, Congress supported Federal involvement in wetland preservation in 1934 when it passed the Migratory Bird Hunting and Conservation Stamp, popularly known as the Duck Stamp Act. This Act established the Migratory Bird Conservation Fund to finance the Federal acquisition of waterfowl habitat. Although this was an important step in protecting wetland, continued loss of the wetland resource base resulted in additional efforts to conserve wetlands. The 1986 Emergency Wetlands Resources Act authorized additional methods to finance wetlands acquisition.

The Service administers nine National Wildlife Refuges in coastal Texas with a total area exceeding 300,000 acres. Purposes of these refuges include maintenance of waterfowl populations, endangered species management, and preservation of unique ecosystems such as barrier islands. Endangered species utilizing coastal refuges include whooping cranes, peregrine falcons, bald eagles, ocelots, jaguarundis, sea turtles, and piping plovers. Refuges in estuarine areas are also vital habitat for a wide variety of fish and shellfish including many commercially important species such as shrimp, blue crab, oysters, red drum, flounder, seatrout, etc. Management of these refuges includes measures to preserve, restore, and/or enhance coastal wetlands.

At McFaddin National Wildlife Refuge near Port Arthur, structures are in operation to retard intrusion of saltwater from the Gulf Intracoastal Waterway (GIWW) into productive marshes that are naturally only slightly brackish. On San Bernard National Wildlife Refuge near Freeport, an ambitious project is underway to restore extensive marshes that are currently deteriorating because of a lack of freshwater inflows. Also, at San Bernard an investigation is focusing on identifying the source of pollution that is degrading oyster beds within refuge waters. These coastal refuges receive extensive public use (Aransas hosts over 75,000 visitors annually) in a variety of forms.

Wetlands within coastal refuges are not without problems. One of the more serious concerns is degradation each year by erosion along the GIWW. Many refuge wetlands suffer from saltwater intrusion, sometimes worsened by the GIWW and other man-made canals and by diminished freshwater inflows caused partially by off-refuge developments and drainage alterations. Refuges located in the lower portions of watersheds are also degraded by pollution ranging from agricultural pesticides and contaminants to industrial and domestic sewage. Water control structures and erosion control projects are often necessary to effectively manage these wetlands.

Contaminant program

Fish and wildlife inhabiting the Texas coastal wetlands are dependent on estuarine shallow waters, exposed mud flats, and tidal cuts that meander through brackish marshes. These freswater inflows into wetlands which transport pesticides, heavy metals, and industrial contaminants often affect coastal seagrass and wetland plant production, resulting in a reduction of an important food base for fish and wildlife. There is a definite need to define, verify, and evaluate the impacts of these contaminants on the state's coastal wetlands. The Service is presently involved in identifying the extent and geographic magnitude of contamination through comprehensive studies and contaminant monitoring surveys along the Texas coast.

Waterfowl habitat acquisition and restoration

The Service's Waterfowl Habitat Acquisition Program along the Texas coast has been guided by Waterfowl Habitat Acquisition Concept Plans, and, more recently, by the North American Waterfowl Management Plan. Land protection/acquisition goals have been developed by the Service in cooperation with other Federal agencies, State agencies, local governments, conservation groups, and private landowners. Six wetland complexes totalling 114,000 acres along the Texas coast have been identified as priority preservation sites for protection/acquisition by the Service or TPWD.

Since approximately 75 percent of the remaining wetlands in the United States are privately owned, wetland conservation efforts rely on joint public/private cooperative efforts. The Service is implementing the North American Waterfowl Management Plan, an agreement between Canada and the United States to restore the continent's waterfowl populations to the numbers occurring in the 1970's by wetland protection, restoration, and enhancement actions. An important aspect of this plan is the recommended joint ventures between private and public entities. Two of these joint venture efforts involving bottomland hardwoods and Gulf Coast wetlands are ongoing in Texas. The bottomland hardwoods in each Texas approach the Gulf Coast between Galveston Bay and the Sabine River. Funds will be spent to improve wetlands habitats under arrangements that include fee purchase and temporary or long-term agreements for protection and management of wetland areas.

National wetlands inventory

The National Wetland Inventory project has had two goals since its inception: (1) to produce detailed wetland maps for the entire nation; and (2) to produce accurate information on the status and trends of wetlands. The purpose of this scientifically generated information is to foster wise use of wetlands by providing the information to make sound decisions. Among the products of this inventory are detailed wetland maps used by local, State, and Federal agencies, as well as private industry and organizations.

By the end of this year, the National Wetland Inventory project will have produced approximately 4,500 wetland maps in the State of Texas and have distributed approximately 50,000 maps to various local, State and Federal agencies, and private industry users.

Impacts of Federal programs on wetlands

There are also Federal program activities that impact wetlands along the Texas coast. Pursuant to the Fish and Wildlife Coordination Act, the Service has a major responsibility to consult with other Federal agencies regarding the impacts of those activities which affect wetland resources. The Service serves as a scientific advisor to other agencies and evaluates the proposed activities and their impacts on fish and wildlife resources. The Service makes recommendations to the Federal agency based on sound biological judgments.

The Department supports the President's goal of no net loss of wetlands, and the Service has been a leader in promoting this initiative over time by making recommendations that will reduce or eliminate the impacts. The Service continues to work with the lead Federal agencies to formulate the least environmentally damaging project alternative. To accomplish this, the Service follows a stepwise sequence of recommendations to mitigate for potential impacts to wetlands. This sequence includes: (1) avoiding; (2) minimizing, (3) rectifying, (4) reducing, and (5) compensating for impacts.

This stepwise process incorporates both good project planning and compensation for unavoidable losses. It also presents the desirable sequence of steps in the mitigation planning process. Initially, project planning should attempt to ensure that adverse impacts to fish and wildlife resources are avoided or minimized as much as possible. In instances of unavoidable impacts, compensation is the last step to be considered and should be used only after the previous steps have been exhausted.

Section 404 permits

In addition to the Fish and Wildlife Coordination Act, the Clean Water Act provides the Service with a responsibility for reviewing Federally permitted or licensed actions which could affect wetlands. These Acts require Federal regulatory agencies, such as the Corps of Engineers (Corps), to consult with the Service and the appropriate State wildlife agency whenever anyone proposes to modify wetlands or other bodies of water through permits, such as those required by Section 404 of the Clean Water Act.

The Service participated in the development of an interagency jurisdictional wetland delineation manual which should provide for more consistent and timely jurisdictional delineations. The Service is concerned, however, regarding other aspects of the section 404 program including the role of the 404(b)(1) guidelines in permit decisions and mitigation for permits issued.

Coastal barriers

The Coastal Barrier Resources Act of 1982 removes federal subsidies and discourages development along 161 miles of designated coastal barrier units and their adjacent wetlands in Texas. Texas is one of the main coastal barrier states. Erosion within the Sargent Beach Unit threatens the continued existence of the Gulf Intracoastal Waterway and is causing the loss of high quality coastal wetlands in the San Bernard National Wildlife Refuge and on adjacent private and state lands. These wetlands are of great value to migratory waterfowl whose populations are rapidly declining, as well as to estuarine fish and shellfish which contribute to both the sport and commercial fisheries of the state.

Water development projects

The Service is also involved with reviewing the impacts of water development projects on coastal wetlands and estuaries which are authorized for construction by the Army Corps of Engineers. The Service is concerned that civil works projects for coastal Texas be adequately assessed in terms of their adverse environmental impacts; that they be planned with a view to minimizing the adverse impacts; and that they adequately compensate for the habitat losses which they cause. The Service has been particularly involved with the Wallisville Reservoir Project and the Galveston Bay Area Navigation Study. We have been concerned that both projects, as proposed, would result in excessive losses of fish and wildlife resources.

Another example of a civil works project impacting wetlands involves the operation of the Gulf Intracoastal Waterway. Since its construction in the mid-1930's, the Gulf Intracoastal Waterway (Waterway) has directly impacted over 2,000 acres of wetlands now within the critical habitat of the endangered whooping crane. Most of these impacts were caused by the initial dredging and filling and subsequent channel maintenance within the boundaries of the Aransas National Wildlife Refuge. Erosion of the west bank of the Waterway within the refuge, however, has resulted in an additional loss of 230 acres of critical habitat. When this loss was first quantified over a year ago, the Service encouraged the Corps of Engineers to initiate stabilization of the erosion in a timely fashion. The Service, the Corps, and Conoco, Inc. have now begun discussions of plans to sandbag the worst erosion areas on a temporary basis. A Corps study to solve the erosion problem is underway.

Flood insurance program.

The fourth activity of concern to the Service is the loss of bottomland hardwood forest resulting from implementation of the federal flood insurance program. The Federal Emergency Management Agency (FEMA) underwrites flood insurance for structures built in a floodplain if they are raised to an elevation above the flood zone. This policy allows houses to be built in bottomland hardwood areas which would otherwise not be built if the insurance were not available.

SUMMARY

In closing, we thank you for the opportunity to appear before the Subcommittee. The value and contribution to the quality of life of thousands of citizens by the Texas coastal wetlands cannot be overstated. The loss of our coastal wetlands and the associated fish and wildlife resources is a very serious problem. Some recent symptoms have been the increased restrictions on sport and commercial fishing and substantially reduced waterfowl populations. We believe that the areas of concern mentioned to you today have been key factors in the declines of these resources.

If you have any questions, we would be happy to respond to them.

Mr. NOWAK. Well let me call up to the witness chair our last three witnesses before we break for lunch which will be a short break, hopefully a half an hour. We want to have—we have now local interest groups and we will break these up into three short panels. The first panel will consist of Mr. Louis Nataro, from Hollywood Marine; Mr. Willie Younger, County Marine Agent with Sea Grant; Mr. George DeShotels, County Commissioner and Bill Templeton, representing the Chamber of Commerce of Sargent. Mr. Nataro if you'd like to begin.

Mr. NATARO. Good morning.

Mr. NOWAK. Good morning.

TESTIMONY OF A PANEL: LOUIS NATARO, HOLLYWOOD MARINE INC.; HOUSTON, TX; WILLIE YOUNGER, SEA GRANT PROGRAM OF MATAGORDA COUNTY; GEORGE DESHOTELS, COUNTY COMMISSIONER, MATAGORDA COUNTY; AND BILL TEMPLETON, SARGENT CHAMBER OF COMMERCE

Mr. NATARO. I'm Louis Nataro with Hollywood Marine Incorporated in Houston, Texas. Hollywood Marine is one of the largest tank barge operators, moving a variety of bulk liquid cargos primarily in Gulf Intracoastal Waterway. I'll just make a brief statement regarding our concern of the erosion along the Intracoastal Waterway, the Gulf shoreline, especially where there is risk of imminent danger to the Gulf Intracoastal Waterway. Of particular concern is the serious problem with the Sargent Beach area in Matagorda County where the Gulf Intracoastal Waterway is threatened by encroachment from the Gulf of Mexico. We are confident that the Corps of Engineers in the Galveston District and his comments—reconnaissance and feasibility studies will find a solution within a sufficient time to control the erosion and protect the Gulf Intracoastal Waterway which is a vital part of the Texas economy. We feel that all users of the inland waterway should form a partnership to find economic and realistic solutions to both the erosion and the loss of wetlands. Thank you.

Mr. **Nowak**. Thank you very much. Mr. Younger, would you like to be next?

Mr. **Younger**. Thank you, Chairman. I'm here as a representative of both the Sea Grant program, program out of Matagorda County and would like to reemphasize some of the things that Mr. Nataro said. We have probably one of the most economically significant erosion problems in the state of Texas. And that's the possibility of encroachment of the Gulf of Mexico into the Intracoastal Waterway and as we heard earlier the possibility of detrimental affects to the wetlands in the San Bernard Wildlife Refuge as well as to the commerce associated with the inland waterway. We probably now have a little over six hundred feet separating the Gulf from the Canal and an erosion rate approaching sixty feet a year. Common sense and simple mathematics tell you that we have at the best ten years to address the problem. That pretty well goes along with what the Corps estimates that their normal procedures to be for water projects. Unfortunately we feel that there might not be ten years remaining to address the situation. That it calls for some action probably in a shortened period of time.

As far as the wetland losses in that area are concerned, we are presently involved in a project hoping to get under way to take some dredge materials that ya'll have suggested earlier and place them in some marshes to counteract some subsidence problems in East Matagorda Bay. If this project can find ways to coordinate the resources and the talents that would be necessary to do this, we look to connect the Colorado River with the East Matagorda Bay complex and to enhance the wetlands in that area and hopefully restore some of those to their former productivity. Then in summation I just would like to emphasize that what you have in your hands there are some documents that tell some of the story behind the erosions down in that area, particularly the brown book which the state had just delivered last week that has a two page executive summary that could bring you up to speed very quickly. The economics in very simple terms amount to over three billion dollars a year in the state of Texas. That does not include the recreational nor the fishery's contributions. So we have, like I said, clear social and economic problems associating with our waterway and the erosion there at Sargent Beach. Thank you.

Mr. **Nowak**. Thank you very much. We'll now turn to George. George, would you like to give your testimony?

Mr. **DeShotels**. Yes, thank you Congressman. Thank you Congressman Hancock and Congressman Laughlin for coming here. I'm George DeShotels. I'm County Commissioner of Matagorda County which includes the Sargent area. It also includes a large portion of the coastline including all of East Matagorda Bay and roughly half of West Matagorda Bay. And I'll say probably fifty miles of the intracoastal canal also goes through my precinct. On behalf of Matagorda County Commissioner's Court, we thank ya'll for coming down here on this fact finding fishing and appreciate you bringing some rain with you too. Ya'll come back and anytime whenever you bring the rain. I never thought a couple of Congressmen from up North would be our Saviors, but ya'll certainly have been. I always heard Congressmen carry a lot of clout but if Greg can bring these boys back and we know you'll be back plenty.

Fellows, we do have a real problem here on Sargent Beach and I believe I deal with it every day and looking at the mud beaches like you have in the pictures you have in front of you and the erosion that we just have just a few years left before it cuts into the Canal. And our Canal is very vital to our county's economic well being, not to mention down west and all that barge traffic that goes from like from Corpus to up the Mississippi River will also be affected. And you know we've known it for a while and are starting to get the word out. The Corps is working on that study. I'm sure they'll be coming to ya'll through—and Greg's been a real help on this, but we're gonna have to have a solution before long or we're just not gonna have a canal left. A good example is Hurricane Gilbert when it came through. It put about three foot tides in when it went into Mexico. Well that breached that peninsula there in at least three or four places. And I just be thinking if that thing would have hit here directly, it would have breached the canal and we'd be talking about some type of a measure to put the canal, redig the canal or come in there to figure out somehow of—oh, shoot—to have the canal to be put back, because it'd already be washed out. So this is a serious problem and we'd certainly appreciate anything that ya'll can do to help us. Thank you.

Mr. **Nowak**. Thank you very much. Bill, would you like to speak on behalf of the Sargent Chamber of Commerce?

Mr. **Templeton**. Mr. Chairman, Honorable Greg Laughlin, Panel Members, my concern was the problem of accelerated erosion of Sargent would not be focused on. However, apparently from the federal testimony and the other testimony, Sargent's Chamber of Commerce pretty well done it's job. I have a chart here which we should have passed out that shows the accelerated rate of erosion for the last hundred years. And something that came up in the testimony, I would like to add that during the last six months of 1988, the erosion dropped from forty-six feet the first six months of '88 to only sixteen feet in the last six months, due to the fact that the Corps placed dredge disposal material on a certain segment of Sargent Beach and they put approximately two hundred eighty-four thousand out there. And it did a very good job during that period of time. Thank you, sir.

Mr. **NOWAK**. Thank you very much. I was interested in one other, in looking at your total area here, you've got a 1986 Port of Houston, I guess almost thirty-one percent of all that Houston traffic moves through the inland waterway system. You've got employments of some twenty thousand people involved in this waterway transportation industry which is I'm sure a—well it's a lifeline to you and your port. I might say that your port is really getting to be the envy of a lot of southern ports along the Gulf coast that I've been to and say that would be a shame if we ended that because of a breach in your inland waterway system. So I will certainly be working with Greg and I anticipate he will be, as he has in the past, looking at this—bringing to us in the most responsive manner that he can drag it out and you're gonna need you know continual effort on this as we look at this and the other inland waterway systems around the country that are now being—starting to be repaired. And you're gonna have a similar situation here and as I say Greg has talked to me about this process several times and we're trying to figure out another way to look at this total question. I want to thank you for your attention. I assure you though I know how important this is from Greg already. So thank you. Mel, do you have any comments?

Mr. **HANCOCK**. I just wanted to thank this panel in particular for the courtesy that they have extended. I also would like to mention that since we keep getting back to the comments that were made earlier concerning the confederate capital of the state of Missouri. That was in my district.

Mr. **NOWAK**. Greg.

Mr. **LAUGHLIN**. Mr. Chairman, Congressman Hancock, just to highlight the concern of these citizens and others in the room, if you'll look at the picture on the front of this brochure that's Texas Shores. On that very stretch, my Dad and I fished when I was in high school and there were four streets of beach houses and this is the only one left and I don't know that it'll last much longer. When I was there——

Mr. **TEMPLETON**. It's gone.

Mr. **LAUGHLIN** [continuing]. It's gone now? I was there about six months ago and it looked like its days were numbered and in fact they were cause, it's gone. That's what's happened in thirty years. Thank ya'll very much for being here.

Mr. **NOWAK**. Thank you. The Subcommittee will have two more groups and I think you've all been notified we're gonna take a—let's say we reconvene the Subcommittee hearing at one o'clock and have an opportunity for everybody to get a bite of lunch then before we continue on this afternoon with the rest of the witnesses. The Subcommittee stands adjourned until one o'clock.

[Whereupon a brief recess was taken for a lunch break.]

Mr. **NOWAK**. I'll ask the local interest groups that have been scheduled, I'll call you from the list that I have. If you'll come to the witness table. We'll invite Mr. Joe Dial from the Citizens Advisory Committee representative of the Gulf of Mexico Program; also Mr. George Cason of the Soil Conservation Service, if he'll please come forward along with Bill Bauer, Jr. who is a rancher; Mr. Joe Surovik, who is a Calhoun County Extension Agent; from the Texas Farm Bureau and Local Rice Farmers representative, Gerald

Clark; Mr. Alfred Aparicio from the Texas Shrimper Association member; Paul Carangelo, from Corpus Christi, Texas. Any testimony again that has—you've prepared, gentlemen, will be accepted in the record in its total form and we will now hear your oral remarks. And Mr. Dial if you'd like to start with this panel, we'd appreciate it.

TESTIMONY OF A PANEL: JOE DIAL, GULFWIDE CITIZENS ADVISORY COMMITTEE; GEORGE CASON, PRIVATE INDIVIDUAL; BILL BAUER, JR., RANCHER; JOE SUROVIK, CALHOUN COUNTY EXTENSION AGENT; GERALD CLARK, TEXAS FARM BUREAU, LOCAL RICE FARMERS REPRESENTATIVE; ALFRED APARICIO, TEXAS SHRIMP ASSOCIATION; PAUL CARANGELO, CORPUS CHRISTI, TX

Mr. DIAL. Thank you, Chairman Nowak, Congressman Hancock, Congressman Laughlin. I appreciate the opportunity to appear before you. I would briefly like to tell you about the Gulf of Mexico Program. I serve as chairman of the Citizens Advisory Committee of the Gulf of Mexico Program and am in that position by virtue of the fact that upon initiation of the Gulf of Mexico program, the Governors of the five Gulf Coastal states were asked to appoint five individuals in each one of their states to represent their states, naming an individual in the areas of agriculture, environment, tourism, business industry and fisheries. The Gulf of Mexico Program has had its beginning in January of last year. The Citizens Advisory Committee met in December of last year and at that time I was elected chairman of the Gulfwide group. So in essence, I am representing the five Gulf Coastal states, the citizens of those states through the Gulf of Mexico's Program. The Gulf of Mexico Program is in essence a joint venture program between eleven federal agencies so the fifty to sixty state agencies would affect every river authority, every navigational district and every port authority in the Gulf of Mexico. It has come to the point that it has come because of the citizens initiative. It has been in development stages for several years and was brought to fruition through the EPA. Those individuals that you heard testify earlier today, the Corps of Engineers, NOAA, Soil Conservation Service, are all a part of the Gulf of Mexico Program. The material that I gave you is self-explanatory and I would only like to make reference to a few points in that material.

One, the purpose of the Gulf of Mexico Program is to develop and implement a comprehensive strategy for managing and protecting the resources of the Gulf. After many years of study, considerable amount of money having been expended, not only to conduct these studies but also for programs—Mr. Chairman, I think you said fifty-five billion dollars over many years in waste management programs, and it has become apparent that we need a system wide program which would affect coordination and cooperation over all of these federal and state agencies including the local governments, but most importantly citizen input. The Chesapeake Bay Program, the Great Lakes Program, and others similar to those, have found that their success or failure was built around the citizen involvement. And that's the role that the Citizens Advisory

Committee of the Gulf of Mexico Program will play in trying to facilitate the coordination and cooperation of these organizations.

I'd like to make reference to three points, Mr. Chairman. Earlier in this deliberation, you made reference to or stated at, I assume in the form of a question and not that I'm quoting you, but I'm paraphrasing you. You said we need to find a way to get the program moving so that the various groups can participate. I would suggest to you, sir, that in the Gulf of Mexico, that this program is a way to get the program moving so the various groups, federal, state, private sector, public interest groups, and the citizens, can participate.

Sir, you also said that it would be difficult to develop a statute or legislation to cover all facets of the wetlands situation. I respectively submit to you that the final solution is not going to be through legislation, but through cooperation of all of the parties that I have just named.

And finally you said, how do you resolve these problems, how do you do it without involving or calling upon tremendous federal funds or revenues. Once again, I would suggest to you, sir, that the funds are available to the participating agencies. It is a matter of not reinventing the wheel, but affecting cooperation, coordination of their efforts so that the right hand does know what the left hand is doing. And so that the citizens can generate interest on behalf of grassroots, the private sector and public interest groups so that they too participate financially in resolving the dilemma that we're faced with not only in coastal wetlands specifically, as you are here to discuss today, but also in all of the areas, habitat degradation, toxins and pesticides, fresh water inflow, nutrient loading, public health, data information and gathering and public education of the information as a part of the ongoing comprehensive program in the Gulf of Mexico.

I'm here to provide you with this information. I respectfully submit it to you and I appreciate your time and attention.

Mr. NOWAK. Thank you very much. Let's turn as we have in the other panels and then we can get a good cross section of the questions and different points of view hopefully brought out at that time. Mr. George Carson.

Mr. CASON. I'm a private individual. I am not with the Soil Conservation Service, although I am Chairman of our local Oil and Water Conservation District and President of the Gulf Coast Association of Oil and Water Conservation District which is an association of about fourteen such districts that generally goes from Galveston to near Corpus Christi.

You made a statement earlier this morning, Mr. Chairman, what the hell is this all about. And I think all of us have that same thought. I formerly practiced law. At that time I represented as general counsel the National Association of Conservation Districts as an unpaid volunteer. During that time I also served as Director of the Harris-Galveston Coastal Subsidence District. The National Association of Conservation Districts is an organization comprised of approximately three thousand oil and water conservation districts, resource conservation districts, natural resource conservation districts in the fifty states, Puerto Rico, the Virgin Islands, the Guam/Northern Mariana Islands and Washington, D.C. There are about fifteen thousand men and women who act as directors or supervisors as they are called in some areas of these districts. There are about 2.3 million cooperators with these districts and encompasses about 778 million acres of privately owned lands in these United States. That organization has adopted as a part of its policy the report of the 1988 National Wetlands Policy Forum. I think I saw a copy of that at the head table earlier today and it goes further in relation to wetlands by stating that its goal is to establish a no-net loss goal taking special care to ensure that the goal is not used to halt future wetland conversions providing state and local governments with the tools necessary to implement and manage wetlands protection programs and expanding the use of government incentives to encourage private landowners to protect wetlands resources on private lands.

What happened in the 1980's may be considered as the "Decade of the Wetlands". It might be considered as a decade in which the "War for the Wetlands" was started. However, if we can not get some sort of an agreement and understanding between government, industry, business and more importantly, the general public, 1990's may be known as the decade in which the "War for the Wetlands" was lost. This country has never fought a war in which the general public supported its effort. Since we've not had any sneak attacks on this nation's wetlands, we don't have a foreign nation to attack back. And so in order to get this support, in my view, is going to depend on education. We are going to have to teach and train the general public as to the value of the wetlands. And by the way, Mr. Chairman, and Members of the Committee, my remarks are my own and not necessarily of any group of which I am now or have heretofore or hereafter been affiliated with. We found that through education, the consumption of tobacco in these United States has been reduced a great deal. Regulation, I don't believe, and prohibition reduced the consumption of alcohol that much.

So I think that the entire secret is that we learn to communicate and first of all we need to learn to speak the same language. Just as you said, what the hell is this all about, I have a question to determine what the hell is a wetland. Now when we're standing knee deep in muck, thigh deep in snakes and alligators and being bitten by mosquitos, we don't have any question but what we're in a wetland. But where does the grass and soil stop and where does a wetland commence. I think we've got about fifty "official" definitions of what a wetland is. Too often the definition is a slightly torn hole in the objectives of the definer. If Senate Bill 1206 passes the Texas Legislature, well then Texas will add its official definition to that long list.

So for two hundred years we have been advised and taught to drain and develop, to drain and plant, to drain for health and safety reasons. Now all of a sudden we're turning a hundred and eighty degrees on that. Those of us that live on the land and make our living from the land are generally good stewards of our soil and natural resources. Perhaps more so than other users of the land. We want to do the right thing. We try to leave these natural resources to our descendants in as good or better shape than they were when we got them. But, gentlemen, leaving an undrained swamp, an undrained bog, an undrained pothole have not so far been considered a positive legacy. Maybe we were wrong. But we're not all convinced of that yet. I think, again, if there is an attempt at any point of legislative regulation without education as to why it benefits us, it is destined to failure. I live in a county about fifty miles inland from here and I would like to give you an example in relation to some matters there that cause a problem. I think we have about fifty thousand acres in our county planted to rice. Another source of income there is through waterfowl hunting in the season. Eagle Lake is known as the "Goose Hunting Capital of the World". So we're keenly aware of the need for wetlands for these migratory birds. Additionally, we have about thirty thousand acres in that county that have strip-mined for sand and gravel purposes. I think only about three thousand of which have been replaced. Rice, as you perhaps know, having had hearings in this county as well as in Louisiana, is a grain crop that grows under water or in wetted soil from the time it's a few inches high until it matures. You heard earlier today that the Soil Conservation Service, among other things, encourages the conservation of irrigation water, both underground water as well as surface water. As you are all aware, the Swampbuster Act, the Swampbuster part of the 1985, Food Security Act Farm Bill, states that if you had a wetland that had been cropped prior to, I think December 23, 1985, you can continue cropping that, but you can not drain it or convert it. That's management practices in rice production. That would indicate that in order to conserve water, to conserve energy and the most newly developed varieties of rice, indicate that it should be grown in two to three inches of water which would dictate decision land leveling with a laser beam where they can level that land within an inch. If a farmer wants to implement that program and there's a low spot in that field, he can't do it because to do so would cause him to convert a wetland and knock him out of the U.S.D.A. Farm Program. He can't even move it over to a corner of the field. So he's damned if he does and damned if he doesn't. So I think there should be some agreement or understanding between our government programs so that we can get some consensus. He ought to be able to let him establish another wetland somewhere else.

I understand today that wetlands have not been made a part of the Conservational Reserve Program, but no one knows the details on that yet. I have heard you, Mr. Chairman, indicate that a possible solution would be in looking at the Internal Revenue Service Code for tax incentives in that regard and I certainly concur in that regard.

Secondly, and I mentioned earlier, there is a number of unreclaimed gravel and sand pits in our county. To my knowledge, there is no federal program other than the ones relating to coal, that has anything to do with other forms of strip-mining. I have as a part of my formal statement to the Committee included some photographs at the end showing some of these areas that have been virtually left abandoned that perhaps could be converted into wetlands.

You had mentioned something about the migratory bird population reduction and wetland qualities along the coast. It would seem to me that possibly some of these rice lands in their off season could be dammed and flooded for that purpose. Surely, we do not mean that the alteration of a wetland means a lost wetland. It may be good in one state for certain plants and animals, but not good for others. If we're gonna talk about no net loss of wetlands, what do we mean by loss? Surely there should be some sort of a gauge to measure these losses.

Again, I think that education is the key. I think that any legislation that you or anyone else attempts to pass and for it to be effective should apply across the board equally. To my knowledge, agriculture is the only industry or business that has been singled out insofar as the wetland situation is concerned. Perhaps I am in error. But I think under 404 of the Clean Water Act unless the drainage affects the waters of the United States, you don't have to have 404 or EPA permits. It is my understanding that if you are able to drain wetlands into other lands that you own, for business or industry or any other purpose, you're not going to affect the waters of the United States. And if you are not controlled by any other area of law, locally it doesn't apply to you. For the most part, in this state, counties do not have ordinance making power. Many cities, Houston being the largest, do not have zoning. So you have vast areas where development can take place, profits can be made, and I have no quarrel, I don't think profit is an vulgar word. I have no quarrel with that, but I think if you're going to protect these wetlands then you gonna have to make it uniform across the board. We have a project, I think it's gonna be called the West Houston Airport, where they're putting in a large airport, and there is a need for it.

We've heard a lot of information about bird strikes because of it being in an area where migratory birds go. But I hadn't heard a word about it being a wetland. I'm reasonably certain that there are gonna be wetlands drained in that area. Now if a farmer started to do that, he'd be put out of business.

I think when we reach an understanding and speak the same language, if we can get the public support, see that the cost of maintaining wetlands, is worth it to the environment, if the wetlands which are on privately held lands for the most part in the contiguous forty-eight states, if the private landowners are compensated, I think it will succeed through the cooperation, assistance, participation in equitable groups, but I do not think any program will succeed based on a regulation, confrontation, confiscation which will result in litigation without education. Thank you, Mr. Chairman.

Mr. **Nowak**. Thank you very much. We'll turn to Bill Bauer, Jr.

Mr. **Bauer**. Thank you, Mr. Chairman. A little bit to tell you where I'm coming from, first, I appreciate the opportunity to address this esteemed group, I'm filling in for my father. You have kind of a thankless task here. You have so many different opinions. From seafood producing to agriculture, everybody's got what they want are all hopeful you will make some intelligent decisions on this. I've been very impressed with the questions I've heard you ask the previous testifiers.

A little bit where I'm coming from. I'm a rancher, a bank president, I formed a chapter here twenty years ago, I served eight years on the Saltwater Conservation Board, two years as chairman. So I've kind of got a diverse interest. I was raised in a dredging family. Those nasty people that you all have been hearing about, so it is without doubt that a compromise piece of legislation has to be arrived at. We've got to have distributors, we've got to have that producers. Without producers we've got nothing. We've heard several problems in the estuaries and I know shoreline erosion has been addressed. I don't think it's been addressed quite strongly enough. You've got various different kinds of shoreline erosion. This one little county on the Texas Gulf Coast, has got I think 254 miles of shoreline. All of this is not the same. We saw nice things at A&M as trying to develop the low cost shoreline erosion. That's fine where you have a little flat area out in front of where your water is before you have a sheer flood there, you can't hold it long enough because it's certainly hard for grasses to get established there. There needs to be much more work done on that because there's just as many sheer bluff areas as there is flat areas or some of these low developed type of programs to work with. You get cooperation from your landowner, you talk about something you can afford.

You know everybody understands riprap and bulkhead and all that, that's a hundred dollars a running foot, I don't care where you cut it. And the average landowner can not afford that and there needs to be more work done on what can we do for these severe erosion problems.

I was more than happy to hear Mr. Nowak discuss what to do with various spoil. That's a nasty thing and true there are some dredge holes that have toxic fill that you don't want to use for any other purposes. I'll point out that when we dredged the Matagorda ship channel, there's a lot of environmental groups didn't want spoil islands built out there. They want to take it inland and contain it in some way. Well, that's real funny because now the islands are considered bird sanctuaries and I don't know how many of you are fishermen, but that's where a lot of the fish hang out is around these little islands. So they have become a benefit rather than a detriment.

There's also other things that you can kind of do as far as you go into a grassy marsh area and you do the same thing you do in your yard and you bring out a load of dirt that's two inches of top soil all over the top of your yard, how long does it take it if you water for the grass to come through? You can do the same thing with the spoil and you don't end up with a dead backed off or limited area with all of it stacked in there and it's not good for anything, ever again.

One thing that we may just touch on very briefly, my last thing. That would be in the State of Texas we used to have shell dredging. I don't know if they still have it in Louisiana, Mississippi, Alabama. In order to dredge a shell reef, we're talking about a dead reef covered with many feet of mud and silt, the reef has been there forever. Parks and Wildlife come and say okay you can dredge this one. When you dredge that one, they says you're required to put so much of the shell back on the side of the reef. Again it's called you know that's where a lot of greenlife takes place is around a fresh oyster reef, the plankton on it. We cut that off many years ago. There's been no new reefs built and they finally came to the conclusion that yeah, we need those reefs, so we got to haul oyster shells in from Louisiana to build reefs when there's millions of tons of it in the Texas bays under doesn't help anybody, no greenlife, doesn't help ecological change. Thank you for hearing me.

Mr. **Nowak**. Thank you very much. We will now turn to Joe Surovik who is a Calhoun County Extension Agent.

Mr. **Surovik**. Mr. Chairman and Committee Members, first of all, has anyone welcomed ya'll to Calhoun County, yet? Aren't you glad to be here?

Mr. **Nowak**. Greg welcomed us for two days now so——

Mr. **Surovik**. All right. Do you realize that right here in Calhoun County that we have almost five hundred miles of coastline? Now that's—if you'll go around the edges, all the way around, you can't get to a whole lot of it, but we have almost five hundred miles of coastline.

What I would like to do for just a second is to hand you a microscope. You have been receiving a nebulous and voluminous amount of information over the hearings that you've held. But just for a minute, I'd like to hand you a microscope and let you look at what one small tiny county represents and how important our wetlands and specifically the estuarine area that is associated with that five hundred miles of coastline. I'm not gonna reiterate what my cohort, Mr. Bob Nailon, talked about this morning about what we're trying to do as far as shoreline erosion or the studies that the National Academy of Science is doing over in San Antonio Bay for the last forty years.

I've been here in Calhoun County now for approximately twenty years with the Marine Advisory Program at Texas A&M University, with the Texas Agricultural Extension Service. The marine resource industry, the commercial fishing industry that we're gonna take this microscope and look at for just a second right now, it supports approximately fifteen hundred families right here in Calhoun County. All of this estuarine area that is associated with these five hundred miles of coastline that we have is the—produces the basic food chain that produces the shrimp, the crabs, the oysters and the fish that are harvested out of these waters. We gross annually in Calhoun County approximately fifty-five million dollars worth of income from our marine resources. Now I'm speaking from a commercial standpoint right now. You can add that same amount if we look at the tourist and recreational industry that we have that's potentially being developed here now.

Needless to say, the wetlands and specifically the estuarine areas are of very much importance to the economy of Calhoun County. It's the second—the commercial fishery is the second largest industry that we have as far as producing income to Calhoun County. We're surrounded by about four hundred and sixty square miles of water that all this estuary supports and I think earlier a man with the Fish and Wildlife Service said that about fifty-five percent of all the marine species that we have in the Gulf of Mexico at one time or another depends on these estuarine areas that we have here.

I think I've been maybe misquoting to about three or four thousand school kids each year, but we look at it as between seventy-five and eighty percent of all the marine species that we have in the Gulf of Mexico at one time or another depend upon these wetlands and estuarine areas that we have in the Bay System. So, gentlemen, yes, this is of very much importance to a lot of people here in Calhoun County and if you just take this one little county's feeling and what it means to us and multiply it by all the counties that we have that surround the Gulf of Mexico on both the east coast and the west coast. We do have a problem. And I'd like to thank you from the recreational and commercial fishing industry for your patience in gathering this information and we wish you God speed with one heck of a job that you have to do in coming up with the right solution to these problems. Thank you, sir.

Mr. Nowak. Thank you very much, Joseph. We'll now turn to Gerald Clark who is from the Texas Farm Bureau. Mr. Clark.

Mr. Clark. Okay, thank you, Mr. Chairman, I'd like to preface my remarks with the fact that I appreciate the opportunity as a sub-director to represent Texas Farm Bureau and the farmers and ranch members of the Texas Farm Bureau. And I'd like to point out the fact that I'm also a rice farmer in this area. I live and farm in Jackson County, just north of here. And the issues that are facing your Subcommittee are of great concern to me personally and so I'd wanted to preface that and let you know where I'm coming from.

The Texas Farm Bureau appreciates the opportunity to comment on the House Subcommittee for Water Resources regarding coastal wetland losses. Before wetland losses can be addressed, a single definition of wetlands must be adopted for use by all federal agencies. The producing members of Texas Farm Bureau agree* that the following definition best defines the term wetlands: wetlands should be defined as a naturally occurring area of predominate hydric soils that normally support hydrophilic vegetation. Supporting definition should be: hydric soils or soils that are consistently in time, whether or not to maintain an anaerobic condition that supports primarily hydrophilic vegetation; and, hydrophilic vegetation means plants that grow in water or in soils made deficient in oxygen due to excessive water content. Texas farmers and ranchers are producing food and fiber while faced with the problems of compliance with several and often conflicting rules that apply to the designation of wetlands. A pothole in a field while farmland most of the time may be classified as wetlands by some agencies even though water is present and the depression on an irregular basis. Some Texas lands have been designated as wetlands because flood waters are present for short periods of time and plants from the U.S. Fish and Wildlife Service Texas Wetlands Plant List are present. All of this leads to confusion to the Texas farmers and ranchers who have to deal with the inconsistency of the wetlands definitions used by the various agencies. We believe that the definition of wetlands that we offer is a practical and workable definition that could be adopted by your Committee. Your careful consideration of this definition will be appreciated.

The 1982 study by the U.S. Office of Technology Assessment and U.S. Fish and Wildlife Service on national wetland trends indicated a total soil and water wetlands loss of four hundred eighty-two thousand acres. Out of this acreage, 1.8 percent was lost through agriculture while 98.2 percent was lost to urbanization, industrialization and other sources. Not only had factors other than agriculture had an impact on coastal wetland losses, those same factors had had an adverse impact on the Texas rice industry. The net coastal area of Texas is slowly going from a predominately agricultural area to an industrial urban area. Some rice farms which have provided habitat to some wildlife and waterfowl species are now covered with residential sub-divisions or industrial complexes. As this trend continues, the economic pressures on the Texas rice industry increase. One of the fears faced by rice farms is that the mitigation for lost wetlands will result in the taking of rice farmland to accomplish the no net loss of wetlands. Because rice is generally farmed on the less fertile or poorly drained soils and limited to the central nation coastal counties of Texas. Litigation of the wetland losses should first come from that land currently held in abundance by our Republic. The power of Eminent Domain should be prohibited as a method of wetlands loss mitigation. We could support the concept of a conservation reserve type program, a CRP, to address wetlands losses so long as the landowner retained title and control over his land committed to the program. The least desired action is public acquisition of private land—private-held land to offset wetland losses. Care should be taken to prevent the purchase of private land for an agreed upon purpose other than wetlands restoration and then used for wetlands. If any purchases are made, those purchases should be made from willing sellers at not less than fair market value.

Again, I thank you for allowing me to present Texas Farm Bureau's views on coastal wetland losses.

Mr. NOWAK. Thank you very much and we'll now let's go to Mr. Alfred Aparicio of the Texas Shrimp Association Member.

Mr. APARICIO. Mr. Chairman, members of the Subcommittee, my name's Alfred Aparicio. I'm from Palacios, Texas. And I'm representing the Texas Shrimp Association. And what the Texas Shrimp Association is a trade association made up of shrimp vessel owners and operators operating along the Texas Gulf coast.

My family has been in the shrimping industry for the past thirty-five years. We own shrimp boats and also unloading dock and we also operate our own vessels. I'm here to talk about the importance of the wetlands as pertaining to the shrimpers along the Gulf coast. Nationally seventy percent of the wetland—of our marine commercial industry is dependent on the wetlands and this contributes over seven billion dollars annually to the gross national product. And the wetlands are essential to the survival of the shrimping industry because shrimp are estuary dependent and by this we're talking about the shrimp come from the Gulf into the estuary water, hatch in the Gulf as you heard earlier, come into the wetlands for—where they undergo—whey they further grow—the larvae grow. And wetlands also provide protection for these growing shrimp. As the shrimp start to mature they then head back out into the Gulf where the entire cycle is completed. In the past few years as you've heard all day today, we've been losing much of our wetlands. It's been estimated that we're losing three hundred thousand to five hundred thousand acres of wetlands annually and I feel that if we continue to allow this to happen as the saying goes, when one part of the ecosystem is affected the rest of the ecosystem is going to be also affected by this. And currently

I'm looking into the shrimping as my future. Right now I'm a senior at the University of Texas and I plan on graduating in December and when I do graduate I'd like to continue in my family's business. So what I'm wondering is, if we don't try to do something about the wetlands now, I mean, twenty years from now, if I don't support my family or the other young shrimpers, people who want to get in the industry, I'm wondering if everything's gonna be still around because with the destruction—if we don't stop the wetland destruction or take care of it, we're gonna lose a vital industry.

And I thank you for letting me talk to you and I'll be happy to answer any questions if you have any.

Mr. Nowak. Thank you, Alfred. We'll hear now from Paul Carangelo.

Mr. Carangelo. Honorable Chairman, Honorable Representatives, my name is Paul Carangelo. For the last seventeen years I've worked in perhaps a unique field which I consider under the topic of estuarine habitat, a restoration engineering and science. Though I can profess to several capabilities I feel quite comfortable with having a good handle on how these habitats are developed and created and many of the issues that are associated with those. Now we kind of ended today's testimony questions about definitions of wetlands. It appears to me that there are several excellent technical definitions of wetlands, but what may be finally considered are the values of those wetlands. Which of those wetlands are we going to sacrifice and which of those wetland types do we want to maintain to enhance our lifestyles or standard of living. The overall concept that we've been approached with today is the no-net loss of wetlands as a goal. What is it this society really wants. I brought some data with me today. I'll need the help of the overhead projector to also provide another wrinkle in the overall management as it were, of what it is we're having to do. And this has to do with the subject of sea level rise. And I bring this forward to you today so that when we do decide to plan on whether we create wetlands with dredge material or whether we preserve shorelines with hard engineering or vegetated stabilization methodologies, or whether we decide to put land into conservation programs, when you go through all the permutations that you're gonna look at, before these decisions are made, I want to present this interesting wrinkle that it might give you some hope in some regards and put the concept of no-net loss into perspective for the future.

[Whereupon a slide presentation was presented.]

I thank you for your patience. The National Academy of Science has provided several estimates on the projected sea level rise in the ensuing years and they characterize them in many different ways. Here's the low scenario which they could anticipate for sea level rise due to a variety of effects which I won't go into. And then there a high scenario which you could look at. In any event, because most engineering projects are generally projected for either fifty year lives, we can essentially look at small time scales, here's twenty years and here's a few years hence. And to get an idea that even with low and high scenarios we will be getting some projected rise in sea level. As time goes on it could be more dramatic. I think the point being that it took us two hundred years to get to the point where we are and I don't thing we're gonna turn back the hands of time very rapidly. In that context, what is the result of this. Well, Bob Morton presented some information this morning that with just the subsidence of coastal lands, we have that problem already, and certain events have happened, now, I'm from south Texas and I've had an opportunity to look at a lot of the changes that have occurred down in the Laguna Madre areas of south Texas. And oddly enough that system is driven pretty much by seagrasses. However, this illustration will serve to show that if you have—this is a low scenario again, you're not getting much of a level rise here, this is roughly a hundred centimeters over a period of time, one meter. You can see that even at the current system we have our distribution of marsh types as we go into "uplands" but as that sea level rises you get this fairly dramatic shift, here's bare muds, shifting over into another area of bare muds. These are areas of low marsh, often considered to be your most productive habitats into the much smaller area. So the general overall theme is you're shifting from one habitat type to another wetland type and then in some cases, many cases, worldwide is you're losing the most productive vital mass areas. In the Laguna Madre that may not be true because we'll have the seagrasses in the submersion areas and we may have the ability to food available to them—to the organisms. Now, this data is from an EPA document which I provided the reference to in that handout I've given you. Here are some numbers providing for the projected U.S. coastal losses from sea level rise alone and Texas you can see in 1985, although there's a tremendous amount of disagreement in exactly how much wetlands are in Texas, the numbers vary greatly. You can see that in the year 2100, that under the low rise area, that is one meter of rise, you can get losses and gains so going back to the profile I showed you earlier, it's gonna be difficult to keep ahead of that trend.

Now something a little more near and dear to all of us along the Texas coast is what could be happening in our own backyard. And just to put people into context, the things I'm gonna show you are for certain sample stations. This is down in the Brownsville area. Here's an area at the Aransas National Wildlife Refuge. Now while this shows the exaggerated high scenario simulations, you can see that before the Aransas South Texas, what this is going to be showing you is that sea level rise is going to either provide in the short term large increases in wetland types in some areas or immediate declines in other areas. Some Chenier Plain data will show that you should get an increase of a certain wetland type due to the increased inundation. While in areas as in the Aransas National Wildlife Refuge in two locations, you can see that while you generally have a downward trend. Now again I want to reemphasize that these are the highlow scenarios, so that for example, this representing a Barrier Island type situation, you can see that as water levels rise, you're getting an increase in the wetted surface and you're getting increased wetlands. But as the Barrier Islands breach, bingo, you get an exposure to the open Gulf you get your losses. Now in most area projections, that line would be drawn out much less than slow so you may have some instances where you have significant damages. I bring this data to you, Mr. Chairman, just to reemphasis that I think that you mentioned the need to come up with a kind of an overall statement or larger statute and it may be very difficult because there's so many regional specific characteristics that are a part of this overall problem. And when you have these potential affects, you really have to balance what money that might be spent and exactly what are the gains going to be for them, in my opinion.

The other thing I failed—this might be of interest—is that you had talked about incentives. What kind of incentives could be brought to bear. Well if I was a landholder of wetland acreage I might have a different idea that I might want to get rid of that land a little quicker. Or I might be more inclined to put into a conservation program because it looks like we might have trouble just maintaining my own shoreline. So there's lots of aspects that might, just—education might provide getting people interested in what it is that this process is all about.

One last point which I feel is very important and it has to do with again this concept of where do the wetlands end and where do they begin. Clearly uplands in this case become wetlands. And there's the issue on us about technical descriptions and what are we going to be calling wetlands. Well I hope one of the things that have come out of the proceedings is that the real object of the complex problem in that the uplands and the activities on them are connected to the wetlands, their quality, their generation and their permanence. I would hope that when you consider the legislation or rule making that you intend to do, that the existing wetlands laws are not weakened and that consideration is made for moving people back away from what we consider in the current time to be low value wetlands because it's very possible that they will become high value wetlands and maybe the only area that we will have to propagate those high value wetlands.

And I've taken enough of your time. Thank you very much.

Mr. NOWAK. If we could have the lights back on. I think the—it's evident of the last panel and the testimony from the several points of view showed that this is not a simple or an easily developed kind of consensus for action. If it had been I guess we could have taken care of this problem years ago. But the delays of action usually come about because there's really no crisis. And with education as has been mentioned here by several speakers now, we come to the point that at least there's a growing awareness, not only that there is a problem but it may have reached some type of a crisis proportion. You have just in this panel before us, a good cross section of interests that are going to be affected by whatever is done. And especially will be affected if nothing is done. And you know that is the solution to some of our problems in this country. And sometimes a bad solution when you're looking at enormous premises. And the effect as you look down the line whether it be a projection that varies by eight-nine hundred percent as was just presented to us of what the global sea level rise will be in this area to what our food policy is going be in this country, these all have implications for this hearing that was organized here and the more that I hear about this problem and look at the whole solution to it, it really does cut across much more than the saving of, as some would put it, a few ducks and geese.

You really are determining full industries here, if you will, by these kinds of decisions and what I am trying to do is generate some interest in looking at this program from a very large economic and quality-like point of view and everybody can take a very narrow interest and not be concerned, but I think that is just going to exacerbate the problem that people are being faced with, whether it be the fishing community, the sport fishing community and the agriculture community. We haven't heard a lot from the oil and gas industry, but they also are going to have a role in looking at this and what we're hoping to do is generate enough discussion that a consensus or program can be put together. I talked about flexibility before. Because I don't know how you do this without looking at the variants that are inherently allowed in this wetlands program, depending on where it is, the quality, the quantity of the program and of the wetlands.

And we've heard from others that the 404 Permit Program, which is just a small part of this problem. Well the answer to this problem is not working very well because you've got conflicting voices on the federal level. But remember those conflicting voices at the federal level are reflecting the conflicting voices that they hear from their own constituencies in the various areas that they represent. So I think we're finally beginning to understand this complexity—of the complexity of this whole area and I think that federal agencies, despite what I heard last year, are starting to put together and working with the Corps and EPA, starting to do a little better job of being fine tuned by the community that's out there. I think, Mr. Dial, your Gulf of Mexico Program is really a response to trying to do this on a state level so that we can have the input on a federal level and I don't think anybody on the federal level wants to manage these programs. I think we would love to turn over the major management portions to the different governors when and if everybody felt secure, or at least the majority of the constituency out there, that you would have a solid basis in programs so that all states could react equally to it and you could get consistency between Texas and Mississippi and Alabama and Florida. That is, I think what we're trying to attempt so that when we do take the amendments and if we write this whole act of the amendments, to bring some of the best thoughts that you have into this. You know the Conservation Foundation, I think made a national effort which recognized the varied needs that are out there and they talked about different types of incentives.

And in looking at the federal government to play a role was certainly not to mandate a new program to, as some had suggested, to buyup all the wetlands in the country. I mean that would be expensive and we probably don't need that, we need something in between all of that. I hope that we can move forward with your input. I think it helps a great deal, not only that we have the first team here, but that we can take it back to the other Committee Members and start to engender in them and have other groups like your input here, start to talk to other representatives throughout the country, wherever these problems exist and so that they can come to some understanding of the benefits of the estuaries and how the whole program fits together. We were talking about the other day, why are we doing all this. Go through an exercise and frustration. But, really it effects the whole quality of life and then the end result the whole infrastructure that we're dealing with to stay competitive in the world economy. If we can put together a competitive program here that you can attract foreign investment, perhaps finally this trade deficit that has been pulling so much out of America will start to come back and this is a small portion. But it's really a very large portion because it involves the highways of America. It involves all of the necessary things for this whole coastal area to survive, our whole shipping industry and our whole area of transportation to get out the products in the midwest, especially in the farming communities that we can sell and we have a surplus operating throughout our trade picture in agriculture. We've got to, I think, try to get this together and try to look at what we're doing. Why didn't the program work? We've made some gains and then tried to move forward with some of the suggestions we're hearing and some we've heard today.

Mr. Dial, let me ask you a question about your program which is relatively new. I would assume you've got a—only had a technical steering meeting in October of 1988 and you've got finally down to May of '89 a citizens advisory meeting, when you're dealing with the state agencies, I wonder if you could give us a little more information as to whether you think the program is accomplishing what it has set out to do and in your planning schedule, you've got your goals as establishing infrastructure and then going on from there and developing a framework for action. I would assume that you've seen the recommendations that were drawn up by Governor Kean who was the Chairman of this Conservation Foundation Report and now of course is EPA Administrator, but how do we fit your program into our federal agenda?

Mr. Dial. Thank you, Mr. Chairman. I would suggest to you, sir, that it is already a part of the federal agenda in as much as there are eleven federal agencies and between 50 and 60 state agencies. Those at any rate that have anything to do with the Gulf of Mexico, they are already a part of the Gulf of Mexico Program. To be more specific, sir, I respectively submit to you that this is an innovative creative way that the federal government is dealing with a problem that covers the largest natural environmental body of water that the United States encompasses on three sides. It is indeed America's seed and as a result of this innovative approach, what I have found, and then in attendance in every one of the technical steering committee meetings, citizens advisory committee meetings and serving on the policy review board with representatives of the eleven federal agencies and two reps from all five states being a total of ten state representatives, that there is a desire on the part of these agencies, federal and state, to begin to work together for many basic reasons. One, the citizens have made it clear that they are concerned about the environment and environmental issues. They are concerned about the degradation that is occurring in the Gulf of Mexico and I realize, sir, that you're from Minnesota and that Congressman Hancock is from Missouri and you're a long way from the Gulf of Mexico, but I respectfully submit to you, sir, that two thirds of the continental United States drains into the Gulf of Mexico and that's why I spoke to you earlier about this program needs to be a systems wide program encompassing the federal government, the state governments, agriculture, environment, business industry, tourism and fisheries dealing with the areas of toxins and pesticides, habitat degradation, fresh water inflow, nutrient loading, marine debris, public education and information, data gathering and information and public health. It is not a simple situation. There are no simple answers to it. But I have found in all of the meetings which are a total of seven that I had attended, that there is a beginning of cooperation between the federal agencies and the state agencies.

I don't have to tell you sir, because you already know from your own experience that there is such a thing in bureaucracy called 'turf battles'. There also happens to be a thing in bureaucracy called 'CYA' in reference to your own budget. Those natural phenomena of government agencies are very difficult to overcome, but what I have found as Chairman of the Gulfwide Citizens Advisory Committee, is in these meetings, when they reach and when I say 'they' I'm talking about the state and federal agencies, reach an impasse that when the citizens suggest to them that the goal is too great and the cost might be too immense, then for the public to stand or for the federal government to finance it if the degradation is allowed to continue that these agencies begin to find avenues whereby they can cooperate one with the other and we're beginning to solve some problems and we're beginning to do some things that are positive and productive and if the Congress of the United States will allow this Gulf of Mexico Program and the citizens who participate in it to continue, I can assure you sir, that from this point of view, that it will ultimately have the beneficial impact on one-sixth of the population of the United States and America's largest natural marine environment. Thank you.

Mr. NOWAK. You've got three full time positions in your organization, I'm looking at page 13 of your program material.

Mr. DIAL. Yes sir. We have three people on staff at the present time. The only thing that I would hope that the Members of Congress would be pleased to notice is that we're talking about pennies in terms of expenditures and the reason for this is that the Gulf of Mexico Program doesn't want a whole lot of money. What we want to do is effectively use the funding that the Congress has given to all of the different federal agencies and that the state legislators, legislation have given to the state agency so that we don't reinvent the wheel, so that they don't do things in Louisiana that have already been done in Texas, so that there is an interchange of ideas and information.

Mr. NOWAK. Well I think this is a pattern, of course, we have a full range of states involved in coming forward with some of the initiatives there in using the federal resources that are already out there perhaps in a little better way than the Chesapeake Bay example. It's been mentioned the Great Lakes National Program Office also is doing research in the various areas to try to pull together and we have of course the eight states that are bordering the Great Lakes looking at their particular problems. And we also have, I'm sure a group on the West Coast, as well as the East Coast, with some different problems although in this wetlands area, at the same time there's different problems. We do have national problems and you know if we're trying to put together a piece of, as we've talked about from the beginning, a statute that's flexible enough to answer the requests of your group, when you're going to need program dollars.

I've heard talk today, does the intracoastal have any great value to the states and should we put the kind of money that you're going to need for reconstruction and if we do the reconstruction, shouldn't the wetlands be a part of that as well. It's a valuable program that you know, you're looking at what the resources that you have of $500,000.00 for 1989 and $1,000,000.00 for 1990 and I think it's very ambitious, but at the same time you could be the catalyst that brings this together and that is part of what I'm searching for. You know, we're a staff of—I have three, two people on my staff and one other that's assigned to my staff and when you look at the EPA programs and the Corps programs and you look at all the things that we're involved with and you take one little aspect of that as wetlands and to manage that and the thirty some thousand people at EPA, I'm having a tough time knowing what they're doing every day and yet you know in some ways we're charged with that responsibility. But what I guess I'm looking for is that kind of input from the wide variety of people that are out there to agree among themselves and take that to the county and let the county take it to the state and let the states then form, you know, their packs where you have common interests and then let all the states with an interest, whether it be in the Great Lakes or whether it be in the west coast or east coast or the Gulf of Mexico and try to put together that type of program which will work the best in all of those areas and put enough flexibility in there so that you can respond to the problems and you can bring about the best possible benefit and the highest benefit to your own area constituents. And we may have some as I said to other witnesses, other questions as we go along and as we develop more of this information in working with the federal agencies, that input will come back to us too. And hopefully we've had a lot of interest in this whole area shown by the President and now it's a matter of whether we can develop that interest into a program that could work. Let me at this point turn to Mr. Hancock for his question.

Mr. Hancock. Thank you very much Mr. Chairman. Mr. Dial, I would like to make the comment that I'm extremely impressed when you state that your Gulf Program is not looking for a lot of money, but I've only been in the Congress about four-and-one-half months and quite frankly this is the first time I've heard anybody say that. This is one of the things that I think is the strength of the private sector is a lot of us have done a lot of things without anything and you look at it from the same point of view, 'what can we do without any money'?

Mr. Cason, I get the impression from your conversation and your testimony that you are concerned about the inconsistencies of the regulations having to do with agriculture and that people don't really know for sure what they can do or what they can't do; there's confusion; am I correct in that assumption?

Mr. Cason. Yes, sir, there is a certain degree of confusion in that regard and on the one hand we're here advising council to do one practice and here again, Mr. Hancock and other Members of the Committee, I'm not talking about the coastal wetlands estuaries and things of that nature, I'm speaking more in terms of low spots, of wetted areas in fields upland so with that in mind as I mentioned earlier, in our community we are dependent a great deal on farming and also on waterfowl hunting. Many of these rice farmers during waterfowl season at their own expense will pump subsurface water onto these fields in order to provide a habitat for that. On the other hand, as I indicated earlier, best management practices, new varieties of rice and so forth call for leveling these same rice fields for energy efficiency, irrigation efficiency and best production. These fields are only farmed every two or three years. If there is a low spot in that field, under the provisions of the Farm Bill, if he were to land level that he would then convert that wetland and be ineligible for Farm programs. And that was one of the instances that I was speaking of. And to my knowledge there is no provision that he could say, okay I'll swap. He can't even move it over to a corner of the field or something like that. That's one of the problems. This only flies in farming that wetland if the wetland had been farmed prior to December 23, 1985 I think it can continued to be farmed. If conversion had commenced prior to that date, conversion can be completed.

It's my understanding on May 2nd that Senator Fowler from Georgia introduced a bill, and I've not seen it, entitled the Farm Conservation and Water Protection Act of 1989 which states that if a person who is participating in the agriculture program drains a wetland anywhere, whether they're going to crop it or not, then they are ineligible to participate in the program. Now, most of the wetlands are all privately owned land, I think a great deal of it is on privately owned agricultural land. But I don't think that agriculture ought to be whipping boy for the sins of the past if any. I don't think that federal or state legislation ought to be directed to one segment or sector of our population with others escaping scott-free. I'm not saying that we do not want to or will not protect our natural resources. But we don't want to be loaded with the sole burden. We would like for everybody else to share in the same light.

Mr. HANCOCK. Well, in this case I think you can rest assured that this panel and the people on the water resources committee agree in interpreting that. Part of the efforts of what we're trying to do is figure out how we can bring all these various organizations together to work together. One of my major concerns is the impact on agriculture, and also on the fisheries. Hopefully, we can cover it all.

Mr. CASON. If I may make a comment, Mr. Hancock I noticed that on the table is a copy of the National Wetlands Policy Forum Report that group was made up as you perhaps know, people from all areas. I personally know of two of the participants on that and one of the staff persons and they were not totally satisfied with that report. I suspect that no other participant was totally satisfied with that report. I've been taught that in compromising, which no one is totally satisfied is probably, just and fair so if that report alone might be a good start.

Mr. HANCOCK. Thank you. Mr. Clark, you used terms in your testimony having to do with the rise of imminent domain. I get the impression that either the state or the federal government has been buying or forcing the purchases of land. Is there an effort in the State of Texas, where the Texas Conservation Department is buying up wetland areas.

Mr. CLARK. No we were addressing the issue of any possible legislation which may maintain a level wetland loss. In other words, if you come up with legislation on a no wetland loss, you're going to have to acquire land somewhere and we're addressing that issue before we get to it. In other words, if you're going to come with designation wetlands somewhere, well we, I designated the preferable choices. The first is use of public lands, number one to be designated as wetlands and we like the idea of the Conservation Reserve Program similar to the program we have only extend the wetlands concepts to that program and then as a last resort, if lands have to be purchased or acquired to obtain the no net loss status, well then you have to make it from a willing seller at no less than fair market value. I was addressing any possible future legislation.

Mr. HANCOCK. You are aware though that there are several organizations that advocate government control of land that is already owned by private individuals.

Mr. CLARK. We sure are.

Mr. HANCOCK. Okay. Thank you. Thank you Mr. Chairman.

Mr. NOWAK. Mr. Laughlin.

Mr. LAUGHLIN. Mr. Bauer, I'm interested in your experience with the shell dredging you testified about earlier and as I understood that was a practice some years ago where your company would dredge old or dead shell reefs that were covered with mud, had no productive marine life in them and as a part of that, you were required to put that shell or rebuild a new shell reef on top of the mud or on top of the ground surface below water. I wondered what was your experience when your company did that as far as new marine life coming to that, what I'm going to call, new shell reef that was actually built from the old shell, the dead shell that had been covered with mud.

Mr. BAUER. Well, I'm not a biologist, but I think that any fisherman will tell you, Mr. Surovik can probably tell you, he's trained in that field that your marine life congregates around oyster reefs. Especially nice new fresh ones which we haven't had any in an awfully long time your production goes down. Am I pretty well correct Joe?

Mr. SUROVIK. Pretty well correct.

Mr. LAUGHLIN. Is that the reason that discussion has taken place about hauling tons of Louisiana shell to the Texas coast.

Mr. BAUER. That's what I understand. That's what I read that the Texas Parks and Wildlife is considering is hauling it in here. The nice part about shell dredging business, this had to be more shell that's put over nice clean shell to make a new reef. But it was economically driven, most probably the highways within 100 miles of the Texas coast had mud shell underneath them for base. It makes a very fine base. So as your Chairman of your Subcommittee mentioned a while ago, it's nice that you can make it economically profitable and produce something for the estuary or the ecology as you go along.

Mr. **Laughlin**. Mr. Surovik is that your understanding, the reason for the proposal, can you give us some status report on the proposal bringing Louisiana shell.

Mr. **Surovik**. Well I don't work for the Texas Parks and Wildlife Department and don't intend to, but looking at it from just a biologist working here in the Bay Systems, the shell dredging was stopped about fifteen years ago, and just from my experience here in this area, especially over in the San Antonio Bay Area and in the Matagorda Bay Area, primary dredging took place over in the San Antonio Bay Area as I came to the county. We had good production of oysters, also shrimp and of the fishing—recreational fishing seemed to be on the increase in that area. All right. Since no new reefs have been developed in the past fifteen years, as an offshoot of the dredging industry, our industry and production or bay production has gone down.

Now, I'm not going to stand here and tell you like you've read in a lot of the papers and articles and magazines, you read that now fishing has been destroyed because the commercial fisherman are catching them all. Well that's a bunch of bull. It's not due to the individuals that are taking the fish, but it's—or the oysters, or the shrimp or the crabs, but it's due to the habitat destruction which supports the production of those types of organisms that you and I try to go out and either lap a lip around when we're sitting at the restaurant on golden fried shrimp or fried oysters or go out and try to catch our own red fish and trout. So basically with new reefs being produced in an area, yes, sir I think there is not a biologist alive that would say that this would increase the production of those Bay Systems.

Mr. **Bauer**. I want to tell you Mr. Laughlin, Mother Nature used to take care of this, but you know how long it's been since we had a hurricane come in, tear the Bay bottoms up and uncover these reefs. So without Mother Nature's help since 1961 and no help from the shell dredging industry it's going downhill real fast.

Mr. **Surovik**. I'll give you a suggestion here as to sitting here and listening to all this testimony, I'll give you a little suggestion as to how to make your job a lot easier. If you can come up with one good definition of wetlands that everybody can agree on, that's an if, what happens in my situation is that I will go out with a man from the Fishing Wildlife Service, the Parks and Wildlife Department, Soil Conservation Service, the Corps of Engineers and we all go out to Mr. Cason's farm to make a determination and he says hey, I need some help I can't understand all these rules and regulations we got and there's five or six of us come out there and we look at this little area that he's thinking about land leveling. All right. Looking at it from the Soil Conservation Service standpoint, protecting my turf if I may use this term, Joe, hey this would be great, but let's protect my turf from the Fish and Wildlife Service and says no, no, no, my turf's going to land in there and by golly we don't—and there's no net loss of wetlands. So what happens is you get a group of five officials that have a little level over here and those five people have a total different definition of what a wetland really is. So the confused farmer sits there and says well look, damn it, if those people don't how in the hell am I suppose to understand what's going on. So if we could come up with one definition and this is going to solve a whole lot of people's questions and frustrations as to what it is, is to come with a definition that everyone could understand. Farmers can read and they can understand and they'll know whether that qualifies with this definite definition of what a wetland is. They can say well this is definitely a wetland or this is not a wetland and I can do with it, with my own property like I want to do with it and I'm not involved with the rest of this and I don't have to meet these regulations—well I've heard one farmer say, you know, that biologist was very impressive to me. He said, when you said, Chairman Nowak that these crisis situations that come up, well when that farmer is out there waiting for a biologist to make a determination of whether he can or whether he can't that's a crisis depending on what his decision is. And if that young biologist, ah, man it's hot, and you know mosquitoes are out there, so the senior biologist sits behind a desk and says, hey, young fellow get out there and make this determination, well he's got, have you seen a Christian Wildlife Book that gives the definition of wetlands, it's about this thick. Well he's gonna pick the one to protect his turf that's going to fit the best situation that he's in right there, so he makes his decision. And the landowner says, you know, just like a new game warden coming to the county, he's got that gun on his hip and no net wetland loss and he's back out showing people that he can use it. And that's all I'm going to say before I really do get into trouble.

Mr. LAUGHLIN. Mr. Aparicio, some of the staff have asked me to ask you the most important question of the day. They want to know where they can purchase some fresh shrimp that they can take home.

Mr. APARICIO. Any shrimp house along the Gulf Coast, I'm sure would be happy to sell you.

Mr. LAUGHLIN. The habitat for shrimp is very important and as I've gathered here today and know from experience, the wetlands is very vital to that and I wonder if the Texas Shrimp Association that you're here representing today has a policy or a program recommendations on how they're dealing with protecting the habitat that's so vital to their industry.

Mr. APARICIO. Well, for all the members of the Texas Shrimp Association, we're stressing and we are abiding by the regulations on bilge pumps and dumping materials into the Gulf, and trying to cut down on that. Another thing is we're trying to stress right now, we're monitoring our own debris, bringing in your non-biodegradable materials, such as plastics and we are also implementing a program on working with the port authorities where if the shrimpers catch say a sheet of metal, a big buoy, plastic, that's not biodegradable or anything, to bring it in and the port authorities will come and take it and dispose of it properly instead of just throwing it back over and that's a couple of things that we're working on right now. One of the other things we're doing is monitoring the permit applications for people to say dredge or put something in the bay. If the Texas Shrimpers Association feels that it's going to harm the habitat of the shrimp, they'll contact the Corps of Engineers and discuss this problem and hopefully come up with a solution.

Mr. LAUGHLIN. Mr. Chairman, that's all the questions I have and I certainly thank these panelists for their time and their very valuable information input you've given us today.

Mr. NOWAK. Well, let me again, Greg, thank you for the invitation to come here. I think it was very helpful for all of us. Certainly we have some good data to take back and start to discuss with the other members who could not be at this hearing and I think as we go forward in this area, knowing the complexity of this problem, knowing the general view of those who have been informed saying that there is a problem that we've got to preserve these wetlands and now the realization that we've got to join together as a community of interest and look for the best possible alternatives that have been suggested from the various interests that are out there so that everybody can cooperate and bring about the result of delegation of some of this federal authority to the states.

Hopefully the states will have a program by then and be able to handle that. We'll be able to get as many interests protected as we possibly can and at least start the road back holding on to what we have in this wetlands area and then with innovative programs and programs that can be developed, perhaps as simple as seed planting and other small initiatives like that that are carried on by many people in the affected areas and there's going to be different programs all over this country. What's affecting the Chesapeake has no relevance to anything that should be done in this area and you're going to have different incentives than probably Florida will have even though you're in the same Gulf Bay community. So I hope we can do that and I appreciate your taking your time and your energy and would just urge you to keep your high level of interest up and continue your meetings here because that input would be very helpful to us as we progress in this next session to streamline this program with EPA and everybody else paying some attention. Thank you very much and this meeting is adjourned.

[Whereupon, the meeting was adjourned.]

[The prepared statements of Mr. Cason and Mr. Aparicio follow:]

TESTIMONY OF ALFRED APARICIO ON BEHALF OF THE TEXAS SHRIMP ASSOCIATION

Mr. Chairman and members of the Subcommittee, I am Alfred Aparicio of Palacios, Texas. I am appearing before you today representing the Texas Shrimp Association which is a trade association made up of shrimp vessel owners and operators in the Gulf of Mexico.

My family has been active in the Texas shrimp fishing industry for thirty years. We are proud to be a part of this nation's most valuable fishery and hope that the investments we have made will remain economically viable for many more generations. I feel that a key to this vitality is the maintenance of a healthy environment. One significant aspect of a healthy environment is healthy coastal wetlands.

A review of the shrimp life cycle will help explain why coastal wetlands are so important. The main commercial varieties of shrimp commonly called brown, white and pink lay their eggs in the open Gulf of Mexico. After the eggs hatch the larvae make their way to the bay systems which they enter as post-larvae. Post-larvae then migrate to the upper bay systems where food in the form of detritus (decaying plant matter) and micro-organisms is plentiful. These areas also provide additional vegetation for protection of the small shrimp and a preferred salinity regime. Wetlands feed these shallow waters with nutrients and food items, thus extending their benefits into the marine ecosystem. Shrimp grow rapidly in the fertile areas near wetlands. As they grow they migrate to the Gulf of Mexico to begin the cycle once more.

In Texas the principal commercial fishery is shrimp with an average dockside value of approximately $170 million. Other commercial species include blue crabs, oysters and finfish. In 1987 the total dockside value of Texas fisheries was approximately $200 million. Approximately 95% of all fisheries of commercial and recreational importance in Texas are estuarine dependent, meaning a portion of the life cycle is spent in those critical transition areas so heavily dependent on viable wetlands.

Nationally 70% of our marine commercial fisheries are dependent upon wetlands. In addition to shrimp, the nation's largest fishery, menhaden is totally dependent upon wetlands as juvenile nursery areas. Shrimp and menhaden are fisheries of the Southeastern U.S., but the salmon fisheries in the Northeast and Northwest are also dependent upon wetland areas during the freshwater phase of their life cycle. To give the Committee some idea of the economic benefit of wetlands as related to just these three fisheries, in 1987 the domestic harvest value of shrimp, salmon and menhaden at dockside was over $1.2 billion. This figure increases fourfold during the processing, distribution and retailing functions. In total, commercial fisheries for wetland-dependent species contributed over $7 billion to the nation's GNP in 1987.

Wetlands function as remarkable biological systems. They are capable of accomplishing what no other natural physical feature can—they buffer the effects of floods, droughts and storms; trap sediments and pollutants; recharge and release groundwater; are brokers of energy in ways that rival the most productive croplands; provide habitat for and are the critical factor in the survival of fish and wildlife. Protection and enhancement of wetlands produces widespread public benefits for our nation.

Unfortunately, in spite of the significance wetlands play in our quality of life, their area is being reduced at a dramatic rate. It is estimated that 50% of the nation's 215 million acres of wetlands have been lost since colonial days with a current annual loss of between 300,000 and 500,000 acres. I feel it is time to stop this loss and begin to better manage those resources of our nation which support our quality of life as well as our economic livelihood.

I am at the threshold of embarking on my career. I hope that I can achieve the goals that I have set for myself, many of which are tied to the coast of Texas. Our family's business and those of shrimp fishermen all along the coast are dependent on you and your colleagues in government leadership roles taking the necessary actions to preserve healthy wetlands both now and in the future. I recommend that the following actions be taken:

Enact Clean Water Act amendments to accomplish the following:

establish a national policy to preserve, protect and, where possible, enhance the nation's wetland acreage;

require the appropriate federal agency to annually report on the cumulative losses or gains in wetland acreage on a state, regional and national basis;

elevate the role of federal and state fisheries and wildlife agencies in the permit process;

provide EPA clearer authority to control non-point sources of pollution;

strengthen research programs investigating the impacts of wetland alleviation on fish and wildlife, flood and erosion control and groundwater protection;

address the implications of non-point source runoff;

develop and implement state Best Management Practices for management of activities that affect wetlands;

continue high priority wetland acquisition programs; and

create education programs for schools and other youth programs.

This is only a partial list of what needs to be accomplished. It is critical that activities begin in these and various other areas as soon as possible. This hearing today is encouragement to me and my colleagues that positive actions are underway.

Thank you for this opportunity to appear before you today. I will attempt to answer any questions you may have.

STATEMENT of GEORGE CASON
REGARDING WETLANDS

to the

UNITED STATES HOUSE OF REPRESENTATIVES
WATER RESOURCES SUBCOMMITTEE
of the
PUBLIC WORKS AND TRANSPORTATION COMMITTEE

Convened at
PORT LAVACA, CALHOUN COUNTY, TEXAS

on

May 15, 1989

My name is George Cason. I live on a farm eight miles south of the town of Eagle Lake in Colorado County, Texas. I hold a Bachelor of Science and Master of Science Degree from Texas A&M University. Before obtaining a Juris Doctor Degree, I farmed, then taught agriculture, general science and earth science in the public schools. I am chairperson of the Colorado Soil and Water Conservation District and President of the Gulf Coast Association of Soil and Water Conservation Districts, an organization of 14 such districts along the Texas Gulf Coast from Galveston to near Corpus Christi. Before I retired from the practice of law, I served as a director of the Harris-Galveston Coastal Subsidence District and represented the National Association of Conservation Districts (NACD) as General Counsel (an unpaid, volunteer position). NACD is a non-governmental, non-profit organization representing over 3,000 local soil and water, natural resource and conservation districts and their state associations in the 50 states, Puerto Rico, the Virgin Islands, Washington, D.C. and the Guam/Northern Mariana Islands. Over 15,000 men and women serve on the governing bodies of these districts and they work with over 2.3 million cooperators nationwide encompassing more than 778 million acres of private land. Presently, I am on NACD's Resource Policy Planning and Development Committee comprised of members from eight states.

The views expressed in this statement and in my oral statements to the Committee are my own and not necessarily those of any group or organization with which I am or have been affiliated.

The policy of the National Association of Conservation Districts endorses the 1988 report of the National Wetlands Policy Forum and states a belief that special efforts in relation to wetlands should be expended on:

a. Establishing a no-net loss goal, taking special care to ensure that the goal is not used to halt all future wetlands conversons;

b. Providing state and local governments with tools necessary to implement and manage wetlands protection programs; and,

c. Expanding the uses of government incentives to encourage private landowners to protect wetlands resources on private lands.

Subject to my opinions hereinafter expressed to the contrary, I endorse that policy.

Maybe the 1980's will be known as the "Decade of the Wetlands". History may record this decade as the one in which the "War for the Wetlands" was commenced. However, unless agreements and understandings between government, the public at large and landowners is reached soon, the 1990's may be recorded as the decade in which the "War for the Wetlands" was lost. This nation has never won a war that was not supported by its people. Because there has been no sneak attack on our country's wetlands by a foreign nation, the only way this support will be gained is through education. Education has caused a significant reduction in tobacco consumption. Prohibition and regulation, without education did not have that effect on alcohol consumption. America must be educated and trained regarding the value of its wetlands and the cost of maintaining or acquiring them. It must establish an overall wetlands base need for the future in terms of quality and quantity, then fix benchmarks of achievement toward accomplishing that goal. Wringing its hands and shouting over wetlands losses in the past is a waste of time and money.

For almost two centuries most Americans have been taught that wetlands were tantamont to badlands. For about half of that time, all government programs and academic advisors have been directing us to drain and develop; drain and plant; and drain for health and safety reasons. Wetlands, many of us were taught, were good for little except to harbor disease carrying mosquitoes, venomous and dangerous reptiles and pestilence in general. Our nation and its people have generally grown and prospered following these edicts. Because our people have prospered from change and have made financial gains by overcoming challenges, we believe that we can solve most difficult problems. Therefore, our willingness to pay for protecting the nation's wetlands or any other part of our environment must be based on the belief that the price is worth paying and that the price paid will be offset by a commensurate improvement in our environmental quality. Any regulatory attempt without that basic belief will fail.

Farmers, particularily those who live on or work the land, have generally been good stewards of our soil, water and natural resources, having a love for the land that may not be found in other users of this non-renewable natural resource. Their desire has been to leave these resources to their descendants in as good or better condition than received. Leaving an undrained swamp, bog or pothole has not been considered a valued legacy. That may have been error, for now it seems that the theme in relation to wetlands has turned 180^{o}, but we are not all convinced of that yet. We want to do the right thing, but are uncertain as to what it is.

The current commitment is toward "no overall net loss of the nations wetlands'. This may be a noble objective, if there were any sort of agreement as to what it means. Therefore, the first educational step should be toward our learning, speaking and interpreting the same language. There are more than 50 "official definitions" of the term "wetlands", and if Senate Bill 1206 passes the Texas Legislature, our state will add its "official definition" to the list. Most of the definitions are skewered toward the goals and objectives of the definer. Texas SB 1206 has been submitted "in order to protect the rights of private property owners, and to provide consistency in the identification and classification of land features as wetlands". Most all of the definitions refer to soil type, vegetation and/or water levels and in some instances include a minimum size criteria. One standing knee deep in muck, thigh deep in alligators and water moccasins; and being bitten by mosquitoes is no doubt in a "wetland". But, where does the land stop being terrestrial and start being wetland? What is the function of this wetland? What is the quality of this wetland? These questions make the word "loss" subject to definition because all wetlands are not of the same value and impairment of a wetland is not necessarily a lost wetland. A wetland good for some plants and animals, may not be for others, therefore there should be a table of degrees established to count the "losses". Because wetlands are naturally in a state of change, boundaries must reflect the time period for which they apply. The term "no net" cannot mean that all wetland alterations or conversions must halt, because that is not do-able. That would mean immediate curtailment of too many marina, port, highway, pipeline, housing subdivision, canal, airport, powerline, shopping center, levee, dam and many other types of construction. Furthermore, what is to be done about those wetlands that are lost by nature's own actions?

The county in which I live is located about 50 miles inland from the Texas Gulf Coast. It has an annual rainfall of 42 inches. There are approximately 50,000 acres planted to rice in our county; 30,000 acres surfaced mined for sand and gravel (of which 27,000 acres are unreclaimed) and 6,000 acres of wetland areas. The major economic supports for the town of Eagle Lake are rice farming, water fowl hunting and gravel mining. It is known as the "Goose Hunting Capitol of the World".

Because of the income from waterfowl hunting to Eagle Lake, the community is keenly aware of the need to have adequate grounds for the ducks and gees that winter in the area. Many rice farmers flood their fields with water pumped from wells to help provide this habitat. They create artificial seasonal wetlands. On the other hand, wetlands areas (as defined by the United States Department of Agriculture) are causing some of these same rice farmers a serious problem.

Rice is a grain crop that is grown in fields which are continuously flooded with water from the time the rice plant has grown a few inches until it matures. There are contoured levees in these fields separating the areas of different elevations (called "patties" in Southeast Asia). Fields with greater degrees of slope are more intensively levied but all the fields are designed to use as few levees as possible. This may result in holding water at a great depth on the low side while minimally covering the ground on the high side. Because the soil is underwater throughout the growing season (which can be two per year in some areas) the land is only farmed in rice every second or third year. During the "off season" the rice land is generally undisturbed except for cattle grazing. The levees are left open to drain and aerate the soil.

This is a problem between the USDA's wetlands determination and usage policy and rice farming:

1. The conservation provisions of the 1985 Farm Security Act regarding wetlands ("Swampbuster" provisions) generally state that a producer is disqualified from participating in most USDA farm programs if you produce crops on wetlands that had not been cropped prior to December 23, 1985 or if you convert wetlands (although they may have theretofore been cropped) to crop land, if the conversion had not been commenced prior to that same date.

2. Rice farmers are urged to conserve both ground and surface irrigation water.

3. New varieties or rice have been developed to be efficient water users, doing their best in 2 or 3 inches of water.

4. Best management practices recommended by the government dictate that rice lands should be precision (laser beam) leveled to within less than an ince or so of the same elevation for water conservation, energy efficiency and improved rice plant variety growing reauirements.

5. Because these rice fields, which have been farmed for years, have low spots in them that are now classified by USDA as wetland areas, if the farmer precision land levels the field per experiment station and extension service recommendations, there is a "conversion of wetlands" under "Swampbuster" and an automatic disqualification from participating in USDA farm programs. That low spot is now an untouchable, although it never has been a permanent wetland.

It is my understanding that farmers in the prairie pothole areas and playa lake areas of our country are facing similiar situations. Some suggested possible solutions to these and other similiar problems are:

1. Allow the "creation of a wetland area" in another part of a field to substitute for an area elsewhere in the field that should be leveled or drained.

2. Create a "Wetlands Agricultural Reserve Program" similiar to the Conservation Reserve Program for highly erodible soils.

3. Permit wetland areas to be used as "set aside" acreages in the farm program.

4. Create tax incentives for leaving wetlands areas.

5. Convert abandoned surface mine sites into wetlands areas.

Almost five per cent or 30,000 acres in our county has been strip mined for sand and gravel and the mining continues. When the operations in an area are finished, the land is not generally reclaimed for any purpose. This land is virtually worthless. Attached to this statement are photographs that I have taken of some of these areas in Colorado County. Annually there are about 50,000,000 tons of sand and gravel; 75,000,000 tons of crushed stone; and 11,000,000 tons of cement surface mined or quarried in Texas. Statewide, these lands once used for strip mining are abandoned. The federal Surface Mining Control and Reclamation Act of 1977 mandated minimum standards under a state primacy system for regulating the

the surface effects of coal mining. However, no comparable scheme exists to deal with problems posed by mining private lands for sand and gravel, rock or other minerals. Congress should enact legislation to provide a focused and coordinate program for surface mining on private lands in close cooperation with state and local units of government. The legislation should give particular attention to national standards, mandatory inspection, enforcement and public participation provisions. Federal legislation, similiar to the Rural Abandoned Mine Program, which is only applicable to coal, could be instituted in relation to other forms of surface mining. Under this type of program, a severance fee could be collected to be used for reclamation of these lands into wetland areas, pursuant to a plan for each site. This would result in a higher cost to the consumer. However, if the consuming public at large has been educated to the value of the maintenance and creation of wetlands there would not likely be too much opposition, provided the people were assured that the funds would indeed be spent for that purpose (as opposed to being held for budget balancing purposes).

Protection, management, creation and reclamation of wetland areas will inure to the benefit of the general public. There must be a reconciliation of economic and environmental goals which requires that those working toward environmental goals are sensitive to any negative economic implications of their objectives. In those instances in which national wetlands protection measures result in individual or localized financial losses, help should be provided for affected communities and families.

Nearly all of the wetlands in the contiguous 48 states are privately owned. Many of them are on agricultural land. Because of this, however, agriculture should not be the sole whipping boy. Agriculture should not now be punished and panalized for doing what it was asked and advised to do in the past. Agriculture should not be targeted for confiscatory programs that in essence exercise the powers of eminent domain without due process of law or just compensation for the taking. Every sector in our system, government, developers, business and industry, as well as agriculture, should be treated equally and play by the same rules. In my view, the most expedient way to do this is through Section 404 of the Clean Water Act. The federal role should be that of an overseer, with the operational aspects being assigned to those state and local units of government which have developed the necessary capabilities to achieve the wetlands protection goals.

Once national wetlands protection and management goals have been determined, they can be achieved through education, cooperation, assistance and participation within equitable rules. They cannot be achieved solely through regulation, confrontation, confiscation and litigation.

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GROUND LEVEL PHOTOGRAPHS TAKEN BY GEORGE CASON
during April, 1987
SHOWING ABANDONED SAND and GRAVEL PIT SITES
in COLORADO COUNTY, TEXAS

GROUND LEVEL PHOTOGRAPHS TAKEN BY GEORGE CASON
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THE STATUS OF OUR NATION'S WETLANDS AND LAWS RELATED THERETO

TUESDAY, FEBRUARY 27, 1990

House of Representatives,
Subcommittee on Water Resources,
Committee on Public Works and Transportation,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:15 a.m., in room 2253, Rayburn House Office Building, Hon. Henry J. Nowak (chairman of the subcommittee) presiding.

Mr. Nowak. The meeting will come to order. We apologize for the standing room only crowd. We thought we would only have witnesses present today.

We hope that we could exchange chairs as the hearing goes on and let some of the people who are standing sit, and vice versa.

This morning the Subcommittee on Water Resources meets to continue its series of hearings on the status of the Nation's wetlands and the laws related thereto.

The subcommittee conducted five hearings in the spring of 1989 in Washington and in the field. Although the subcommittee was not able to complete its hearings on wetlands issues because of the need to address oil spill legislation, the hearings conducted in 1989 clearly indicated both the value of our Nation's wetland resources and the tremendous degradation to those resources which has occurred, and is continuing to occur.

National awareness of wetlands degradation was heightened in 1988, when the National Wetlands Policy Forum issued its recommendations outlining proposed actions at the Federal, State and local levels to protect and conserve wetland resources. The forum, which included a cross section of public and private interests, recommended that Federal legislation create a Federal goal to achieve no overall net loss of the Nation's remaining wetland base, as defined by acreage and function, and to restore and create wetlands where feasible, to increase the quality and quantity of our Nation's wetlands base.

While the adoption of such a goal has widespread appeal, one of the purposes of these hearings is to determine how best to make that goal a reality.

Subsequent to the final report of the National Wetlands Policy Forum in 1988, the forum convened a working group to develop specific recommendations for Federal legislation and administrative action, as well as parallel recommendations for State and local government.

Those recommendations were issued in late 1989, and we have invited a representative from the Conservation Foundation to present those recommendations for Federal legislation to the subcommittee at this morning's hearing.

In addition, we will hear testimony from the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers, the leading Federal agencies for Federal wetlands regulation, concerning the recommendations for Federal legislation and to discuss the activities of those agencies related to wetlands since they last appeared before the subcommittee in 1989.

Before we begin with our first witness, I yield to my distinguished colleague from Minnesota, the ranking Republican member of the subcommittee, for whatever opening remarks he wishes to make.

Mr. STANGELAND. Thank you, Mr. Chairman.

First, I would ask unanimous consent that the statement of Congressman John Paul Hammerschmidt and Congressman Ron Packard be made part of the record. Both would be here and will be here later, but I would ask that their statements be put into the record at this point.

Mr. NOWAK. Without objection, so ordered.

[The prepared statements of Mr. Hammerschmidt and Mr. Packard follow:]

STATEMENT OF HONORABLE JOHN PAUL HAMMERSCHMIDT
WATER RESOURCES SUBCOMMITTEE
WETLANDS HEARING
FEBRUARY 27, 1990, ROOM 2253 RHOB, 10:00 A.M.

THANK YOU, MR. CHAIRMAN. I AM PLEASED THAT TODAY THE SUBCOMMITTEE IS RETURNING TO A REVIEW OF NEEDED CHANGES IN FEDERAL LAW AND POLICY RELATED TO WETLANDS PROTECTION AND ENHANCEMENT. TODAY'S HEARING IS A CONTINUATION OF LAST YEAR'S FIVE HEARINGS ON THE FATE OF THE NATION'S DIMINISHING WETLANDS RESOURCES. I HOPE THAT TODAY'S HEARING AND THOSE TO FOLLOW WILL HELP US FIND A WAY TO ESTABLISH A MORE RATIONAL FEDERAL APPROACH TO SAVING OUR DWINDLING WETLANDS RESOURCES THAN THE CURRENT PATCHWORK OF OFTEN INEFFECTIVE AND OVERLY BURDENSOME FEDERAL LAWS.

AT LAST YEAR'S HEARINGS WE RECEIVED TESTIMONY FROM FEDERAL AGENCIES, STATE OFFICIALS AND AFFECTED INTEREST GROUPS ON THIS ISSUE. MUCH OF WHAT WE HEARD WAS IN REACTION TO THE WETLANDS POLICY FORUM'S REPORT ON PROTECTION OF WETLANDS. THAT REPORT DEVELOPED A SERIES OF BROAD POLICY RECOMMENDATIONS, INCLUDING THE OFTEN QUOTED RECOMMENDATION THAT WE ESTABLISH A POLICY OF NO NET LOSS OF WETLANDS AS AN INTERIM NATIONAL GOAL.

SINCE OUR LAST HEARING ON THIS ISSUE, THE FORUM HAS CONTINUED ITS DELIBERATIONS AND HAS DEVELOPED A SERIES OF SPECIFIC RECOMMENDATIONS FOR LEGISLATIVE ACTION RANGING FROM PROPOSALS TO EXPAND AND STRENGTHEN FEDERAL REGULATORY PROGRAMS, TO PROVIDING INCENTIVES TO ALLOW STATES TO SET UP THEIR OWN WETLANDS PROTECTION PROGRAMS.

THE FORUM'S RECOMMENDATIONS WERE DEVELOPED IN A SPIRIT OF COOPERATION, COMPROMISE, AND CONSENSUS. THE LEVEL OF AGREEMENT REFLECTED IN THEIR WORK IS TRULY REMARKABLE GIVEN THE MEMBERSHIP OF THE WETLANDS TASK FORCE, WHICH INCLUDED NOT ONLY THE FEDERAL AND STATE AGENCIES BUT ALSO REPRESENTATIVES OF THE AGRICULTURAL COMMUNITY, DEVELOPMENT INTERESTS, ENVIRONMENTAL GROUPS AND OTHER CONCERNED CITIZENS AND ORGANIZATIONS FROM ALL POINTS OF VIEW.

THE FORUM HAS PUT TOGETHER A COMPREHENSIVE SET OF RECOMMENDATIONS WHICH COVER ALL ASPECTS OF WETLANDS PROTECTION AND ENHANCEMENT PROGRAMS. THEIR RECOMMENDATIONS COVER A BROAD RANGE OF AGENCY RESPONSIBILITIES AND COMMITTEE JURISDICTIONS. IMPLEMENTATION OF THE RECOMMENDATIONS WILL REQUIRE CAREFUL REVIEW NOT ONLY BY THIS COMMITTEE BUT BY OTHER COMMITTEES OF THE CONGRESS. THEREFORE, WE MUST ACKNOWLEDGE THAT THE TASK BEFORE US IS NOT A SIMPLE ONE. THE DIFFICULTY OF THE ASSIGNMENT, HOWEVER, SHOULD NOT

DIMINISH OUR RESOLVE. I LOOK FORWARD TO HEARING FROM THE FORUM REPRESENTATIVE WHO WILL OUTLINE THE SPECIFIC RECOMMENDATIONS THAT THEIR GROUP HAS MADE.

I ALSO AM EAGER TO HEAR FROM THE CORPS OF ENGINEERS AND THE ENVIRONMENTAL PROTECTION AGENCY ON THEIR REACTION TO THE FORUM'S RECOMMENDATIONS AND THE STEPS THAT THE ADMINISTRATION ENVISIONS TAKING TO FACILITATE THE GOAL OF NO NET LOSS. I KNOW THAT THE ADMINISTRATION HAS BEEN AN ACTIVE PARTICIPANT IN THE DEVELOPMENT OF THE FORUM'S RECOMMENDATIONS. IN ADDITION, THROUGH THE DOMESTIC POLICY COUNCIL, THE ADMINISTRATION HAS ALSO INITIATED A REVIEW OF FEDERAL PROGRAMS TO SEE WHAT CHANGES ARE CALLED FOR. I AM CERTAIN THAT ALL OF US ARE EAGER TO HEAR WHAT PROGRESS HAS BEEN MADE ON THIS ISSUE TO DATE.

I REALIZE THIS IS AN EXTREMELY CONTROVERSIAL ISSUE. EVEN THOUGH THIS ISSUE MAY TOUCH SOME REGIONS MORE THAN OTHERS, IT IMPACTS THE LIVES OF CITIZENS AROUND THE COUNTRY. AS THE FORUM HAS DEMONSTRATED, THERE ARE COMPROMISES THAT CAN BE REACHED THAT WE CAN ALL SUPPORT. I WOULD HOPE THAT THE SPIRIT OF COOPERATION THAT GUIDED THE FORUM'S DELIBERATIONS WILL GUIDE THIS COMMITTEE'S ACTIONS AND THE ACTIONS WITHIN THE HOUSE AND SENATE.

Statement of

THE HONORABLE RON PACKARD

43rd District of California
before

SUBCOMMITTEE ON WATER RESOURCES
February 27, 1990

MR. CHAIRMAN, I WISH TO THANK YOU FOR CALLING A HEARING ON THIS MOST IMPORTANT MATTER. PRESERVATION ON OUR NATION'S NATURAL RESOURCES IS CERTAINLY A CONCERN OF ALL OF US GATHERED IN THIS ROOM TODAY. AMERICA'S WETLANDS ARE A SOURCE OF GREAT VALUE.

PRESIDENT BUSH HAS OUTLINED A PROGRAM OF "NO NET LOSS" FOR THE PRESERVATION OF THESE PRECIOUS LANDS. A MEMORANDUM OF AGREEMENT FORGED BETWEEN THE CORPS OF ENGINEERS AND THE ENVIRONMENTAL PROTECTION AGENCY WAS SIGNED ON NOVEMBER 14, 1989 AND WENT INTO EFFECT FEBRUARY 7, 1990. THE MEMORANDUM OF AGREEMENT PUTS IN TO PLACE A PROCEDURE FOR SEQUENCING OF MITIGATION MEASURES WITH REGARD TO THE CLEAN WATER ACT'S SECTION 404 PERMITS.

MUCH DISCUSSION HAS ENSUED SINCE THE FORMULATION OF THIS MEMORANDUM OF AGREEMENT. CLAIMS HAVE BEEN MADE BY BOTH PRO-ENVIRONMENT GROUPS AND PRO-DEVELOPMENT GROUPS THAT THIS MEMORANDUM OF AGREEMENT IS FLAWED. FURHTERMORE, THERE IS CONSIDERABLE DEBATE AS TO WHETHER THE CURRENT POLICY OF "NO NET LOSS" IS SOUND.

I SUPPORT THE PRESERVATION OF OUR WETLANDS. I SUPPORT SOUND, REASONABLE REQUIREMENTS FOR THE PRESERVATION OF THESE LANDS. THESE REQUIREMENTS MUST TAKE INTO ACCOUNT PROTECTION OF THE ENVIRONMENT AS WELL AS THE PROTECTION OF PERSONAL PROPERTY RIGHTS AND ECONOMIC GROWTH. ANY CURRENT OR FUTURE POLICY OR REGULATION OR LEGISLATION CONCERNING WETLANDS MUST STRIKE A DELICATE BALANCE BETWEEN THE PROTECTION OF OUR NATURAL RESOURCES AND THE FUNDAMENTAL RIGHTS OF PROPERTY OWNERS. AN EQUITABLE BALANCE MUST EXIST.

THE POLICY OF THE BUSH ADMINISTRATION AND THE EXECUTION OF THE MEMORANDUM OF AGREEMENT MAY PLACE AN UNREASONABLE BURDEN UPON INDIVIDUAL PROPERTY OWNERS WHO WISH TO BUILD ON THEIR OWN PROPERTY. LARGER DEVELOPERS ARE ALSO BURDENED, BUT IN MANY INSTANCES THEY WILL BE ABLE TO PULL TOGETHER THE RESOURCES NECESSARY TO MITIGATE WHEREAS SMALL LANDOWNERS MAY NOT ENJOY THAT LUXURY. THERE MUST BE A BETTER, MORE EQUITABLE SOLUTION.

THIS HEARING AND THE SUBSEQUENT HEARINGS, I HOPE WILL BRING ABOUT A MORE CLEAR UNDERSTANDING OF THE ISSUE SO THAT AN EQUITABLE BALANCE CAN BE REACHED. THANK YOU, MR. CHAIRMAN.

Mr. **Stangeland**. Thank you, Mr. Chairman.

We meet today to continue last session's series of hearings on wetland protection, one of the Nation's most important environmental and economic issues.

As you stated, the Water Resources Subcommittee will focus today on legislative recommendations of the National Wetlands Policy forum, and initiatives or policies of the Corps and EPA. This will certainly include the recent controversial Memorandum of Agreement on Mitigation.

Tomorrow, and throughout the session, we will hear from Members of Congress, States, environmental, agricultural and developmental interests and members of the general public. I believe we will then be in a better position to consider comprehensive legislation addressing substantive and procedural criticisms of section 404 as well as other wetlands issues.

Both the regulatory community and environmental groups have attacked the Corps and EPA for their implementation of the Clean Water Act section 404 program. Concerns include the program's complexity, the broad definition of wetlands, the inconsistency among agencies, the lengthy permit delays, and the inadequate or unfair policies on exemptions and enforcement.

In their effort to protect wetlands, Federal and State environmental regulators often challenge established private property rights and basic notions of fairness.

If the public wants to protect wetlands, the public should have to pay its fair share. We cannot expect private, individual property owners to bear all the cost in order to provide widespread public benefits.

That is just one of the reasons this committee and other groups are concerned about the mitigation MOA. The MOA can be a positive step, leading to greater consistency and coordination, but it must reflect input from all players, including the general public, and it must contain a reasonable degree of flexibility.

It should also encourage mitigation banking and take into account other matters within the public interest, such as transportation, housing, water supply and energy needs.

Only through consensus building and participation from all the players can we increase our wetlands base while decreasing current frustrations and inadequacies with the Clean Water Act, Swampbuster and other programs.

Congress should explore some far-reaching and perhaps very controversial proposals, including State assumption of the Corps 404 program, reduced impacts of Federal public works projects, creation of preservation trusts, expansion of the Conservation Reserve Program, and clarification of exemptions for maintenance and agricultural drainage ditches.

With the Conservation Reserve Program, let me just state here for the record, Mr. Chairman, that the Conservation Forum has a recommendation, and it is something that I will be advocating in the Agriculture Committee, that when we reopen the CRP to consider going from the 30 million current in CRP to the 43 million authorized, that I intend to offer an amendment that will include wetlands as well to be set aside.

With that, Mr. Chairman, let me close so that we can begin to receive today's testimony. Let me say this: I have a markup in Ag that is going to start at 10. Unfortunately, I am not going to be able to be here through the whole hearing. I hope that markup is swift and comes to a conclusion so that I can get back.

But Mr. Hancock and other members here will be sitting through this hearing. It is a very important hearing. Certainly it gets us on the path. Frankly, with the President's policy of no net loss, I think we have an ideal opportunity based on the recommendations of the Conservation Foundation to set into policy some established goals that there shall be no net loss.

In fact, I think the goal ought to be to recreate and increase our wetlands base by creating wetlands where wetlands can be created. And I think there is opportunity for that.

Mr. NOWAK. Let me thank the other members for their forbearance in opening statements so that we can go right to the witnesses.

I just want to mention, for all the members who wanted to make opening statements, we will leave the record open for your insertion at the convenient time, later.

With that, let me call our three witnesses, if there is room at the table. We would like to bring you up, and we will hear all of the testimony before we go into the inquiries.

We would like to invite James P. Leape, who is a vice president of the World Wildlife Fund and Conservation Foundation, to take a seat at the witness table, along with, from the Corps of Engineers, David B. Barrows, who is the Assistant for Regulatory Programs, Office of the Assistant Secretary of Army for Civil Works.

And along with them we will have the representative of the U.S. Environmental Protection Agency, Mr. David G. Davis, who is the Director of the Office of Wetlands Protection.

Gentlemen, let me first of all thank you for coming, and taking the time to prepare some voluminous and very detailed, and I think very informative as the members have the opportunity to listen to it, testimony.

Again, we will review the statements you have submitted in anticipation of us moving to the markup later in the year. So with that, Mr. Leape, if you would like to start with your presentation, we would like to move forward.

TESTIMONY OF JAMES P. LEAPE, VICE PRESIDENT, WORLD WILDLIFE FUND AND CONSERVATION FOUNDATION; DAVID B. BARROWS, ASSISTANT FOR REGULATORY PROGRAMS, OFFICE OF THE ASSISTANT SECRETARY OF ARMY (CIVIL WORKS); AND DAVID G. DAVIS, DIRECTOR, OFFICE OF WETLANDS PROTECTION, ENVIRONMENTAL PROTECTION AGENCY

Mr. LEAPE. Thank you, Mr. Chairman.

I am testifying today on behalf of the World Wildlife Fund and the Conservation Foundation, with 800,000 members nationwide and 40 years of experience in addressing these issues.

I have prepared a written statement for the record, a written statement somewhat lengthier than what I expect to say in this morning's oral presentation.

Mr. Nowak. May I just make the same statement now: all the testimony will be incorporated into the record, as yours has been—all the written testimony.

Mr. Leape. As has already been mentioned, almost three years ago the Conservation Foundation convened the National Wetlands Policy Forum, at the invitation of the Environmental Protection Agency.

The Forum, chaired by now-former Governor Keane of New Jersey, brought together a diverse group to grapple with the fundamental issues in wetlands conservation.

The group included three Governors and other State officials, three farmers, representatives from high level executive positions in the timber industry, the oil industry, the construction industry, the CEO's of four major national conservation groups, and the assistant secretaries from the four agencies chiefly involved in wetlands conservation at the Federal level, serving in an ex officio capacity.

That broad and diverse group was brought together by a shared perception that wetlands were a vital resource for this country, and by the shared frustration of the failures of existing programs.

Over the course of a year, they managed to develop an astounding consensus, calling for sweeping reforms of the Nation's wetlands programs. That consensus is contained in the November, 1988 Forum report.

Once that report was issued, the group continued to work to translate those ideas into more concrete concepts for Federal legislation. This yellow book, published last October, which all of you have before you, is the product of that work.

I would like this morning to just briefly summarize what we at the Conservation Foundation believe to be the most important points of those recommendations, in hopes that it can be of some assistance to the committee as it approaches the task of developing wetlands legislation in this session.

The first and most important recommendation of the Forum to reform of national wetlands policy is that Congress should enact a national goal to guide wetlands conservation programs.

Most environmental programs already have clear goals, of "healthy" air under the Clean Air Act, or "fishable" and "swimmable" waters under the Clean Water Act. But there has not yet been a clear goal to guide Federal wetlands programs.

The Forum concluded that such a goal was necessary to give wetlands programs consistency and focus. The Forum, as the Chairman has already mentioned, recommended an interim goal of no overall net loss, with a long-term goal of a net gain in the wetlands resource base.

That goal, in particular the goal of no net loss, has been widely embraced: by President Bush on several occasions, unanimously by the National Governors Association, and by several States. In fact, by our count, 15 States have adopted or are now developing plans to adopt programs geared to no net loss.

It is a flexible goal which recognizes some losses will continue and accepts that, so long as they are offset. It is also a goal that would represent dramatic progress from where we are today. We are currently, by most estimates, continuing to lose 300,000 to

500,000 acres of wetlands a year. This goal calls for those losses to be reduced.

This subcommittee can take the lead in committing the Nation to no net loss. Ideally the no net loss goal should be part of a comprehensive wetlands bill which would implement all of the recommendations of the National Wetlands Forum. But even more modestly, by enacting no net loss, and an eventual net gain as the goal for section 404, the Nation's wetlands regulatory program, implementation of the regulatory program could be guided by the goal which could also become a prerequisite to State assumption of responsibility for that program.

Beyond implementing a national goal, Congress can also take action to promote a comprehensive approach to wetlands conservation and Federal policy. The Forum recognized that conservation efforts must be comprehensive. To reach no net loss, we must identify all of the losses, not just those that are most conspicuous, but all of the losses—whether from human or natural causes.

We must then develop a coherent strategy to make sure all of those losses are addressed. The Forum recommended the Government deploy a broader array of tools to address those losses. In part, the solution lies in reforming regulatory programs to make them both more effective and more efficient.

But it is quite clear that reforming regulation does not contain the entire answer. Regulation must be paired with nonregulatory measures of improving public stewardship, by promoting better management of wetlands on public lands, and by assuring that Federal programs do not act to subsidize the destruction of wetlands.

I also encourage private stewardship, through incentives, subsidies, or programs such as the Wetlands Preservation Trust that encourage private landowners to take better care of the wetlands on their property.

Getting to no net loss will also require ambitious programs of restoration and creation. These programs necessarily will require substantial Federal funding to make sure that we are restoring or creating new wetlands to offset continued losses, whether under permitted programs or more importantly from natural causes or the effects of past human activities.

Finally, the Forum recommended that a crucial element of any no net loss program had to be planning on the ground which is most likely to be achieved through State and local government. Plans have to be developed that anticipate threats to wetlands resources, and find ways to avoid those threats, so that we are not continually faced with the acute conflicts that arise in the regulatory context.

This subcommittee again can take the lead in promoting such a comprehensive approach, first and most obviously through regulatory reform. I know that all of us who watched the furor over the recent EPA-Corps Memorandum of Agreement on the 404 program must hesitate before recommending more sweeping changes in section 404. But it is clear that regulatory programs have to be broader and more effective if we are to get to no net loss. They have to be more efficient if we are to avoid imposing undue burdens on the regulated.

Secondly, this subcommittee can help promote a comprehensive approach to wetlands conservation by promoting better programs for research and information, in particular by funding research in the Corps and elsewhere that is necessary to develop better tools for wetlands conservation, a better understanding of wetlands functions and values, a better understanding of what kinds of conservation measures are most effective, and better tools for restoration and creation.

Thirdly, this subcommittee can promote restoration, an essential part of the Forum program—first by making restoration a part of the Corps' mission, turning the Corps' considerable resources to the enterprise of creating new wetlands resources, and secondly, by supporting measures to fund a Federal restoration.

Fourth and finally, this subcommittee can take the lead in promoting better wetlands conservation programs by helping States develop stronger programs. In part, this committee can do that by reshaping the measures in section 404 that now govern assumption of jurisdiction under that provision of the Clean Water Act and making it easier for States to assume jurisdiction by allowing States to assume broader jurisdiction than is now authorized. There should also be appropriate measures to ensure that State implementation is geared to the comprehensive strategy to get to no net loss.

In addition, the subcommittee can support funding for the development of State programs. We commend EPA and the administration for requesting $5 million in funding to support the development of State programs. Such funding and technical assistance from the Federal Government can help States develop the comprehensive programs that no net loss requires, and help States develop innovative approaches to regulation that can serve as examples for future reform at the Federal level. This funding can help States develop advanced, on the ground planning which integrates wetlands protection into overall land use management at the local and State level. The forum believes this kind of planning is essential to getting to no net loss.

With those recommendations, let me emphasize that the Forum found that balance in implementing its recommendations was essential to achieving consensus. I encourage the subcommittee to look for opportunities to achieve such balance in the legislation that you prepare—for example, measures to make regulation more efficient should be paired with measures to make regulation more effective, in hopes of drawing broader support for the reforms that are required.

In closing, let me thank the subcommittee for this opportunity to summarize briefly what the Forum recommended for Federal legislation. We urge the subcommittee to act quickly to take action and implement the Forum's recommendations. Where necessary—as will often be necessary—to achieve the comprehensiveness and balance that the Forum recommended—we urge the subcommittee to work closely with other committees in developing appropriate legislation.

Thank you again, and I of course would be happy to answer any questions.

Mr. **Nowak**. Thank you very much.

Mr. Nowak. We will now hear from our second witness, Mr. David B. Barrows from the U.S. Army Corps of Engineers.

Mr. Barrows.

Mr. Barrows. Thank you, Mr. Chairman.

Members of the subcommittee, I am David Barrows, the assistant for regulatory programs, Office of the Assistant Secretary of the Army for Civil Works.

I am pleased to be here this morning on behalf of the Secretary of the Army to discuss the wetlands activities of the Army Corps of Engineers.

As you requested in your invitation, I will address the legislative recommendations of the National Wetlands Policy Forum, the recent activities of the Corps' regulatory program—including agreements with the Environmental Protection Agency—and the Corps' planning and construction activities as they relate to wetlands.

Concerning the National Wetland Policy Forum recommendations for Federal wetlands legislation, the Department of Army generally supports many of the conclusions and proposals of the forum. We believe that the majority of the Forum's recommendations can be reasonably implemented, and we are prepared to take a leadership role in that regard.

Many of the general concepts of the Forum's recommendations are within existing guidelines and support the President's goal of no net loss of wetlands, including some of the following: the establishment of a national wetlands protection and management goal; the establishment of a uniform definition of wetlands, which is already underway with the adoption of the Joint Federal Wetlands Delineation Manual; expanding and strengthening Federal regulatory programs to make them more effective; encouraging delegation of Federal regulatory responsibilities to the States; providing technical assistance to the States; establishing a permit fee system, and establishing a program to restore and create wetlands.

The Army also supports studies and reporting requirements as well as the strong program of public education. We believe public education is vital if the Nation is to develop an ethic to protect, preserve and manage wetlands ecosystems.

In addition, the Corps has a strong interest in continuing its 15 years' ongoing wetlands research and development program.

Let me give you a brief update of the regulatory program for the Corps. This will follow with our testimony from last April.

The number of permit applications that are received in the program each year has remained relatively constant from what we reported last year. The complexity and the difficulty of the permit decisions, however, has increased. As tensions between the competing interests for use of the waters of the United States increase, so does the difficulty in permit programs.

During the past year we received about 15,000 permit applications. Some 9,500 of those were issued, 500 were denied. Most of those that were issued included some measures to minimize impacts to aquatic ecosystems or other forms of mitigation.

In addition to that, we authorized about 50,000 minor activities under general permit, either issued on a nationwide, State or regional basis.

The agreement has already been mentioned this morning that we believe will pay big dividends for both the Army and EPA in managing a more reasonable and consistent program across the country. It was just implemented this February, the Memorandum of Agreement on Mitigation under the 404(b)(1) guidelines, and was subject of the hearing last week. Some of the members here today were at that hearing as well. The purpose of the MOA is to articulate and clarify the procedures of the Corps, that the Corps District Engineers use to determine the type and level of mitigation necessary to determine compliance under the guidelines.

EPA will also use this memorandum of agreement in developing its positions on compliance with the guidelines when commenting on our standard permit applications.

The MOA is a clarification of existing regulations, and was developed in response to questions that had arisen from Corps and EPA field offices, the Congress, and members of both the development and environmental community. The MOA does not contain requirements beyond those currently allowed in regulation, nor does it establish new bases for denying section 404 permits.

The MOA clearly and concisely conveys the expectations of the Assistant Secretary and the Administrator of EPA, and will provide for consistent implementation of the mitigation aspects of the guidelines throughout the country.

We currently have about 160 field offices in the Corps of Engineers involved in making permit decisions, and inconsistency was a serious problem for us.

In addition to the Memorandum of Agreement on Mitigation, as we reported to the committee last April, we have also implemented a joint Wetlands Delineation Manual. That manual was implemented in March of 1989, and we are nearing the one-year anniversary of its use.

For the first time, Corps districts were required to use a mandatory criterion which was set forth in this joint manual. Although some districts found that the new manual increased the area of wetlands jurisdiction, this increase was generally because these districts had not previously used the three parameter approach for determining wetlands which was recommended in the earlier Corps Wetlands Delineation Manual, which was developed by our experimental station in Vicksburg, the three parameters being soil, water and vegetation.

During the summer of 1989, the Corps organized and conducted 2-day wetlands delineation training sessions around the Nation to ensure consistency of implementation with our field personnel. We were able to conduct this training as a result of supplemental appropriations that were provided in fiscal year 1989.

Recently, the Corps, EPA, the Soil Conservation Service, and the Fish and Wildlife Service finished work on the development of an interagency wetlands delineation training program. We are jointly sponsoring six 5-day training sessions which will start this spring. We believe that the joint training will facilitate cooperation between the agencies and further reduce conflict over the various Federal wetlands programs.

We implemented two other memoranda of agreement last year. These also were reported to the committee in April. One was on jurisdiction and 404(f) exemptions, the other on enforcement. Both of those have been implemented very successfully. They have helped us with program management and have not engendered much controversy or confusion.

In addition to the MOA on enforcement, we developed regulations to implement the civil penalty provisions of the Water Quality Act Amendments of 1987. The Army published a final rule for Class 1 administrative penalties in December of last year. Those regulations were subsequently implemented this January. This rule provides the procedures whereby the Corps personnel may assess penalties for noncompliance with section 404 permits.

Let me mention briefly some of the wetlands research activities of the Corps. Wetland research activities include a current program which is nearing completion which started in the days of the Dredge Material Research program, and a new research effort which is proposed in the President's budget at $22 million for 3 years, which is scheduled to begin in fiscal year 1991.

We also have an ongoing Wetlands Regulatory Assistance Program for our field personnel.

The research program will focus on a number of areas. Some of the more important ones are wetlands restoration and development, minimization of wetlands impacts, assessment techniques for regional and cumulative changes of wetlands, wetlands management techniques, and application of advanced remote sensing technology.

Our Wetlands Regulatory Assistance Program will develop a how-to manual on creating habitats for wetlands and develop techniques for determining high-priority wetlands.

On the project side of the house, the Corps has 472 completed projects in 42 States. Among those projects, we have managed close to 11 million acres of lands and waters. All of these provide us opportunities for wetlands protection and restoration.

Concerning the planning, design and construction aspects of our project program, we have made some accomplishments, and I will highlight a few of those.

The Upper Mississippi Management Program is making solid progress in planning, design implementation and monitoring of environmental enhancement projects. These habitat rehabilitation and enhancement projects are designed to counteract the effects of backwater sedimentation. Approximately $15 million is included in the President's fiscal year 1991 budget for the continuation of this effort.

We mentioned last year some freshwater diversion projects that we have ongoing in Louisiana. The Carnaervon freshwater diversion structure is under construction now, and scheduled for completion in 1991.

Davis Pond is scheduled for construction in 1991, and the Bonne Carre freshwater diversion structure is currently under design.

A note about two other projects: as you know, the Water Resources Development Act of 1986 authorized acquisition of 88,000 acres of land for mitigation of wildlife losses resulting from the construction and operation of the Tennessee Tombigbee Project. The President's fiscal year 1991 budget includes $20 million to begin acquiring mitigation lands for that project.

Much of the land to be acquired consists of bottomland hardwood forests and other associated wetland ecosystems.

It also authorized $52 million for fish and wildlife mitigation projects for the Missouri River. Fiscal year 1990 and 1991 funds will be used to accomplish preconstruction engineering and design for those projects.

All of the mitigation will occur near the river, and will involve the States of Iowa, Nebraska, Kansas, and Missouri. Many of those proposed measures will create and restore shallow water wetlands and riparian habitat.

Mr. Chairman, that concludes my statement.

Mr. NOWAK. Thank you very much.

We will now hear from Mr. Davis, representing the Environmental Protection Agency.

Mr. DAVIS. Good morning, Mr. Chairman and members of the subcommittee. It is a pleasure to be here to discuss wetlands protection in the context of the National Wetland Policy Forum's recommendations.

As requested, my formal testimony responds to the subcommittee's questions concerning the Forum's legislative recommendations and EPA's activities and accomplishments during the past year.

That testimony has been submitted for the record, and I am going to make some shorter remarks.

In my opening remarks this morning, I really want to highlight for the subcommittee what I believe are the key themes that emerge from the Forum's work, and relate those to some of EPA's major accomplishments and activities. I believe that these themes are particularly critical to the protection of this Nation's wetlands resources, and are therefore equally critical to your deliberations as you move ahead in considering possible legislative responses.

The first of these themes is the necessity of integrating all programs and activities that can protect or restore wetlands. In this country, we already have dozens or even scores of programs operating throughout our society which have as their primary or important collateral goal the conservation of wetlands.

These programs form an extensive patchwork that, if implemented with a fuller sharing of information and expertise, can deal with most of the wetlands loss and degradation problems that we face.

Before we move too far in formulating new programs, we should assure ourselves that the programs already in place are functioning to their maximum capacity and that we have done everything reasonable to get them pulling together rather than in opposite directions.

The second important theme is geographic focus. Wetlands are components of the landscape, and an effective approach to their conservation must of necessity incorporate that fact. Because of their intimate relationship with local surface and ground waters, local climate and local terrestrial ecosystems and with local land use, we must fashion regulatory and nonregulatory responses to local realities.

Recent advances in remote sensing, inventory and computerized geographic information systems have made that task much less daunting than it was even a few short years ago.

The Forum also stressed the importance of nonregulatory approaches, ranging from planning to education to fiscal incentives for conservation. This is a recognition that has been somewhat slow in coming to some of us, particularly in the regulatory community, but lessons gleaned from observation beyond the beltway are quickly demonstrating to us the importance of balancing the carrot and the stick.

This is the area that in my opinion is perhaps the most fertile for us to explore.

Finally, the Forum made clear that to achieve success everyone must be a player. The Forum's recommendations were not made to EPA, not to the Federal Government nor even to governments in general. Rather, they were directed to all Americans in their full array of public and private capacities.

Just as we learned long ago that we cannot depend exclusively on the police to prevent crime, or on the schools to educate, we must similarly incorporate wetlands protection into all facets of our social structure. The fact that over 75 percent of all U.S. wetlands are in private ownership underscores this point.

The notion that we in the Federal Government can achieve a no net loss or any other such goal for wetlands by ourselves is at worst an unfortunate conceit and at best an idle dream.

In addition to the Forum's guidance, I would like to add two other suggestions. First, we must accept incremental progress in this area, as we have in so many other national goals, such as the conquest of disease or the exploration of space. There often seems to be a tendency to require or even demand that we solve the wetland problem in one fell swoop, and there certainly is widespread disenchantment at our apparent lack of progress.

To those critics I say, look back 5 years, look back 10 years, or better still, look back twenty. Those of us who have worked with wetlands for a decade or more can recognize some significant gains over the last decade or two, and we can all take pride in these accomplishments.

In this area, as in so many others, we need to remember to look at the glass as half full, not half empty.

My second challenge to you is to look beyond the section 404 program as you evaluate progress and potential. The 404 program has clearly been a major factor in wetlands protection in this country, and has generated far more than its fair share of attention and controversy.

The 404 program is a vital piece of the Nation's wetland protection efforts, and we intend to continue to strengthen it administratively by working with the Army Corps of Engineers. But it is only a piece of the puzzle, and even if it worked perfectly, without friction, it would not and could not solve all our problems in wetlands protection.

I cannot stress this point enough, but I know that it will still be too little. Indeed, I would wager that despite the stated intent of this hearing, probably more than 50 percent of the questions that will be asked will still deal with the 404 program. Nevertheless, I ask that you give this recommendation some weight as you push ahead in further deliberations of this committee.

In fashioning its own wetlands program, EPA has tried to take all of these points into consideration, beginning with a broad strategic plan in 1984 and the establishment of the Office of Wetland Protection in 1986. We have tried to balance regulatory with nonregulatory approaches and to think and act comprehensively and geographically.

As such, we have defined our wetland program as having six major objectives: expedite the section 404 program development and implement the program vigorously; two, enhance State, tribal and local wetland protection; three, increase anticipatory approaches to wetland protection; four, increase coordination with and consistency of Federal and State policies; five, enhance public awareness of wetland values; and six, expand scientific knowledge of wetland functions.

More recently we have added a seventh, which is to improve wetland protection through effective participation in international activities.

Since 1986, we have moved ahead vigorously to strive toward all of these objectives. Thanks to the leadership of administrators Lee Thomas and Bill Reilly, we have made significant, though uneven, progress in all of these areas.

President Bush's enunciation of the no net loss goal has certainly undergirded our efforts and has helped to open new doors for us.

To recap all of our accomplishments would require far more time than I have this morning. However, if you will indulge me a few more minutes, I would like to hit a couple that I believe support some of these points. Some additional actions are of course described in the written testimony.

Mr. Barrows has done an excellent job in summarizing a number of major accomplishments in the 404 area, so I will not further dwell on that.

In the State program area, however, we are pleased to report the implementation of a new grant program specifically designed to assist States in evaluating their capabilities and interests for developing State wetland programs, including the assumption of permitting responsibility under section 404.

We also expect to be able to use this grant program as a living laboratory for testing creative approaches to wetlands protection, which we can then make widely available to other States and even local governmental units.

Although this year's grant program is a modest $1 million, the President has requested $5 million for fiscal year 1991.

In the area of anticipatory approaches, we have been working actively with a number of other Federal agencies on the concept and promotion of the concept of river corridor management or greenway planning, as it is sometimes known. This promising approach lends itself to the solution of local wetland protection problems, since it incorporates multiple objectives such as storm water management, nonpoint source management, habitat protection, recreation and even flood hazard mitigation.

As such, it enjoys a very broad base of local support and facilitates the most efficient use of scarce dollar resources. We believe that this and similar comprehensive planning approaches will be a key element in attaining a no net loss goal.

Turning to Federal cooperation, I believe that the most promising recent development has been the establishment of an informal coordinating group for dealing with wetlands on Federal lands. This effort stems from an EPA-sponsored workshop last fall where we gathered for the first time managers from all Federal land managing agencies to share their experiences, ideas, problems and even telephone numbers, to get acquainted for the first time, as it were.

The event was so well received that the participants agreed to continue this spirit of cooperation through an ongoing informal group which is now formulating a number of specific projects.

Finally, in the area of research and development, EPA has recently released a two-volume report entitled Wetland Restoration and Creation: Status of the Science. This report discusses the approaches, successes and inherent risks in restoring or creating particular wetland types and functions.

The information was assembled from as many sources as possible, including personal experience and field practitioners. The resultant synthesis provides technical assistance to those individuals responsible for design or creation of restoration projects, and is a first step in providing wetland regulators with an analytic framework to build criteria for wetlands creation and restoration.

Given the pivotal role of restoration and creation in attaining a no net loss goal, we believe that the release of this report is a key step.

As you know, EPA and other executive branch agencies are now working together to formulate administration wetland policy through the Wetland Task Force of the Domestic Policy Council. Until that work is completed later this year, the administration has chosen to refrain from taking positions on specific legislative proposals of the National Wetland Policy Forum.

However, I believe that in my written testimony and in my oral remarks, I have provided a number of observations and suggestions of a general nature that should assist you in formulating guiding principles for the consideration of the forum recommendations or other legislative proposals.

The challenge before this committee, and before all of us, is a formidable one, as we strive to formulate wetland protection strategies that work and that take appropriate cognizance of other important national goals. I for one am confident that we can meet it if we all work together.

Thank you, Mr. Chairman. That concludes my remarks, and I look forward to answering your questions.

Mr. **Nowak**. Thank you very much, Mr. Davis.

I just want to make a few remarks, and perhaps open some thought up in the questioning.

You mention that there are some guiding principles that EPA would like to see encouraged in Federal legislation, and that the administration is not ready to formally comment on the programs.

I would hope that we could urge the administration to look very quickly at those guiding principles that they want to see incorporated in the balance that everybody here at the table has talked about.

I would like to thank the other members who have taken the time to contact us and who have specific areas of concern that they would like to ask about, give them the opportunity to do this, and then perhaps we will go back.

Mr. Roe, who has been working on this legislation for many, many years, and who is now the chairman of the Science, Space, and Technology Committee, has told me that he has other commitments, and as chairman of that committee, I can understand.

I would just like to give him the opportunity to make any remarks he might like and then we will go back to Mr. Hammerschmidt and go through the other membership.

Mr. Roe.

Mr. Roe. I thank you, Mr. Chairman, for your remarks.

I have not had a chance to read the testimony. I will read it.

One thing that puzzles me, only because I do not know—when we talked at the oversight hearing the other day, we talked about the issue of the 300,000 to 500,000 acres of land affected. Do you recall that issue?

And we were unable to really—I am not being critical—to digest that 300,000 to 500,000 acres and determine which were affected directly by Corps permits per se, and which were affected by other intrusions, if you like, into that particular wetlands area.

Having not had a chance to review that testimony, I would like to ask, have we considered—and I think you are speaking to that, in part—the overall picture? In other words, we started out with the clean water bill in 1972, and I remember that when we wrote the 404 section, the purpose of the clean water bill was to provide the resources in concert with the States to build our sewage disposal facilities and so forth and clean up the pollution, because the pollution had a material bearing upon the wetlands issue.

The second point that was involved in that had to do with the tidal flows along the coast and so forth, vis-a-vis spills and stuff dumped into the ocean, and drawn back into the rivers. I am thinking about runoff from roads and so forth. And then of course we ultimately evolved the Superfund bill on the toxic waste issue.

Where I am leading from—has anybody done any study, or digested at all the so-called 300,000 to 500,000 that we are losing per year? How much of that may be affected, or have we considered that to be a loss element as far as these other environmental intrusions are involved? Or is it just land that has been taken out and permitted to build something on?

Do you know that? Have we done anything in depth?

Mr. Davis. I can provide a partial answer to that, I think, Mr. Roe.

The data that you are referring to, that 300,000 to 500,000 acres a year, is based on the National Wetland Inventory compiled by the Fish and Wildlife Service, the Status and Trends report from the mid-1950's to the mid-1970's, using aerial photography.

Those losses are predominantly, if not exclusively, complete physical losses, because they are simply disappearances of wetlands from one set of aerial photographs to another 20 years later.

Mr. Roe. If the gentleman would yield—they did not make that clear. At that hearing the other day, they gave the impression—and some of you were there—they said something between 20 to 25 percent was a definite specific loss of the wetlands. That statement was made.

Mr. Davis. I believe, sir, that the statement that they probably made was that 20 to 25 percent of the overal loss could be covered under the section 404 permit program. But the other losses were probably due to causes that were not regulated under the existing regulatory programs of that day, but they are still—I believe that I am correct—physical losses. They are not chemical degradation, or other kinds of effects which go beyond the 300,000 to 500,000, because there is certainly degradation resulting from a variety of chemical impacts of oil, salts, pesticides, saline increase in irrigation return flows and other things that do not show up in that inventory because they do not show up on a photograph.

The wetland is still there, so it still scores as present, even though it may be degraded. So we do not have a good handle on that, and that is something that at least in my agency, EPA, we are building into a new, longer-range program called Environmental Monitoring and Assessment, which is not just wetlands but all ecosystems, based primarily on degradation.

Mr. Roe. What I am trying to get on the record, if the gentleman would yield, and the members of the committee—is that we have been nipping away at this 404 issue now since 1972. I am getting older, and I want to get this darn thing done.

The second point comes back and says that we have not put into total perspective what the issue really is, and I am not saying this in any derogatory sense. I think what the commission has done in its review is excellent.

But it seems to me that we have to go further than that, because if we are going to be calling upon the States in some kind of State matching program and so forth, somebody has got to be responsible for the maintenance of these lands, somebody has got to be responsible in the continuity of these lands, and somebody has got to be able to establish what we would consider to be a solid inventory, and I do not believe there is a national inventory.

I do not want to take the committee's time now, but I do recall just for quick analyses where we flew up—I told you that last time—we flew over in a helicopter, and there were supposed to be wetlands, and there were none. There was a tennis court there, there were not any wetlands.

So that became frustrating to say the least. I only would like to suggest to the committee, if I may, Mr. Chairman, that as we review this issue, I think it is a much broader issue that has been at least demonstrated thus far.

I think that the action of the Federal Government in the toxic waste program, in the clean water bill, in our oceans resources and so forth—all has a material bearing on the integrity of wetlands, and I believe Mr. Barrows, and maybe Mr. Davis, too, spoke to that issue, that the coordination of what we are doing with all agencies ought to be interlocked rather than the point of view of one contravening the other, which is happening at this particular point.

I did not mean to make a speech, but I will have other questions later on, Mr. Chairman. I did want to get that into focus, that it is a much broader related situation than it appears to be on the surface.

Mr. **Nowak**. Thank you very much.

We will hold the hearing record open for any further questions that members would like to submit to any of the witnesses.

Let us turn now to the minority leader on the full committee, Mr. Hammerschmidt, who also has followed this legislation since its inception, when he was a very junior member on the committee.

Mr. Hammerschmidt.

Mr. **Hammerschmidt**. Thank you very much, Mr. Chairman.

Mr. Chairman, I have several questions, three of them being quite parochial, that I am going to submit, and just ask answers for the record.

One of those I am going ask right now, however, to Mr. Davis, if I might, to give you an idea of some of our concerns.

Mr. Davis, I realize that some of the most contentious issues in section 404 relate to the agricultural exemptions contained in subsection (f). Among those exemptions, EPA and the Corps have had a great deal of difficulty coming to grips with the normal farming activity exemption.

In my part of the country, particularly in eastern Arkansas, we grow a great deal of rice. For generations, farmers have cultivated the crop by constructing rice levees each year to provide the flooding needed to grow rice.

It is my understanding that region IV, your office, has raised questions about whether this practice constitutes normal farming practice and activities. Mr. Davis, if the practice of constructing rice levees has not changed for generations, would you not agree that this practice constitutes normal farming activity?

Before you answer that, I can assure you that this is exactly what we in Congress intended to protect through the agricultural exemption when we passed it.

Mr. **Laughlin**. Well, I come from a similar area——

Mr. **Hammerschmidt**. You want to be associated?

Mr. **Laughlin**. I come from the coastal area.

Mr. **Hammerschmidt**. We both have the same concerns.

Mr. **Laughlin**. That's all I have, thank you.

Mr. **Davis**. Obviously, sir, the answer is not a simple one, but you are quite correct. This is something that was, by many, contemplated to be considered within the nature of the exemption for normal farming when that was enacted.

The question seems to turn in our mind on whether the contour plowing is done as part of a normal crop rotation, or whether it really involves change or conversion to a new agricultural use, which under the terms of section 404(f) would bring it back into the realm of the permit program, because there is a change from use of waters of the United States to some other use with concurrent changes in flow and reach.

The situation, however, is probably one that we can work out within the administrative framework of the program, and I am informed that within our regions—two regions are involved in the Southeast and South Central States—that they are trying to work with the Army Corps of Engineers and others to come up with some sort of an administrative fix, if you will, for that. It does not have to become burdensome or contentious.

The problem at least from the perspective of the Washington office is a relatively new one, and we had not been in it until very recently.

I do not know if Mr. Barrows wants to add anything to that.

Mr. BARROWS. Just by way of my experience, and most of my field experience has been in the State of Texas, dealing with the rice situations there—most of the rice activities that I had seen when I worked in the Fort Worth district, where they were doing contour plowing as you described, creating small rice levees, were considered to be exempt.

Where they ran into the problems was first converting bottomland hardwoods before they began to contour.

Mr. HAMMERSCHMIDT. Well, I appreciate the response.

I know my colleague Mr. Laughlin has the same concern that I have, and of course Arkansas being the top rice growing State, obviously you can see our economic interest in this matter, and we will pursue it further.

I do not want to take the committee's time. I yield to the gentleman from New Jersey.

Mr. ROE. I would like to just take a minute, if I may.

That same situation exists in cranberries in New Jersey, Massachusetts, Washington, and Oregon. It seems to me that is a process that has come from colonial times. In fact, the only indigenous crop other than corn, food, if you like, was the cranberry.

They have been having one heck of a time—and I know that the Corps has been working for five years now—documenting what you do to grow cranberries. So I certainly would support the point that the gentleman from Arkansas has, because I remember clearly and concisely some very fierce debates when it was absolutely, abundantly clear that where rice was involved, and other crops that require that, such as cranberries, this created an enormous battle.

I think that we ought to be getting at some of those particularly and resolving them without looking for a blanket overall solution to the whole thing.

Mr. HAMMERSCHMIDT. Well, thank you, and Mr. Chairman, if you will indulge me for just another moment.

Many of these things are not all that parochial. You have to balance the economic interests of communities and industries with good national public policy on wetlands, and of course that is what these hearings are all about.

I have many more questions, Mr. Barrows, that I could ask you, generic questions dealing with the subject, but I will not get into that. But I would appreciate the courtesy of a response to these questions that I am going to submit to you.

Thank you very much, Mr. Chairman.

Mr. NOWAK. Thank you.

We will turn now to Mr. Bosco, who represents, of course, California. I am sure that he, too, is going to tell you that they grow rice in California.

Mr. BOSCO. We do. Thank you, Mr. Chairman.

I have a compulsion to dwell on the nightmares of the 404 program, but I am not going to do that.

I must say, though, that since 75 percent of the wetlands are on private property, it makes me uncomfortable to see this burgeoning mass of bureaucracy that now sits ready to regulate virtually every activity on that property. But I do not want to talk about that.

I like Mr. Davis' idea that maybe we should focus more on what we can do positively as not only the Federal Government but the States and the locals, to increase the wetlands capacity in our country, rather than perhaps all these individual permit problems that hopefully we will be able to resolve.

I think that Mr. Roe raises a question that I have. There is a national movement now, starting on wetlands, and all of it is based on this yearly loss of 300,000 to 500,000 acres. I have heard of it as 200,000 to 400,000 but we all know it is hundreds of thousands.

But what part of that is natural? I mean, that just plain happens because Mother Nature takes certain broad areas out of wetlands and puts it into something else?

Mr. Leape. Mr. Bosco, I have never seen that breakdown.

Certainly there are significant natural losses, especially in places like Louisiana.

Mr. Bosco. Right. Louisiana is hundreds of thousands of acres itself, is it not?

Mr. Hayes. Would the gentleman yield?

I am very familiar with the State of Louisiana, and in fact, while we have been discussing this, the State of Louisiana just in the time of this hearing has lost 43 acres.

So I am really a bit put out at the idea of considering long-term studies to find the problem. I will fly to Conallen, Louisiana and let you talk to a lot of people who know a lot about their houses disappearing, and you can meet both rice farmers who are irate and swampers who are equally irate.

The point is, the natural loss in Louisiana is a consequence of another loss—it should not be a math theory. Newton's third law of motion should be an economic theory—in this case it should be an environmental theory.

For every action, there was indeed an opposite and equal reaction. We protected the Mississippi River and its banks, so that spoil does not go through the Louisiana delta any longer.

Now, you can call that a natural erosion and intrusion as a consequence of the first action, but without the first, you would not have the second.

So the point that I am making is that if you want to back up to a mere decade ago, or five decades ago, then you would be looking at natural losses in the State. But if you will back up to the founding of this country, then you will be looking at the impositions placed upon civilization through the navigation of the Mississippi River and find the consequential effect in loss.

I do not disagree at all with anyone on this panel—but to me what is paramount is that you use the same starting point in making the analysis, and I suggest that if we are going to say what the cause of nature is, then we suggest that the starting point is far, far in advance of the settlement along the Mississippi River.

Mr. Bosco. Well, that was not exactly the emphasis I was going to place on it, although—actually in a way, that is what I was saying.

What percentage of this is major localized losses that do not really reflect on the entire national real estate development, industrial, chemical problems? What is happening naturally out there? What percentage of this 300,000 acres is just plain——

Mr. LEAPE. None of us knows of any breakdown of that estimate. I can only say that most estimates are somewhere between 10 and 20 percent of those losses are losses that fit within the jurisdiction of the 404 program, losses from real estate development—the industrial or development losses that you describe.

The remaining 80 or 85 percent would include some natural losses, some losses which are the continuing effects of past human activities, as Mr. Hayes describes, and other kinds of losses that are not subject to the 404 program because of the limited scope of its jurisdiction.

Mr. BOSCO. So maybe we could extrapolate that 10 to 15 percent of this problem we have to deal with through the 404 regulatory problems, but the rest we have to deal with in terms of broad mitigation programs to account for natural and past—I do not know whether you would call them natural abuses—but Mother Nature having taken out of production—see, I cannot get a good grip.

With all this talk over the years, I cannot get any grasp on what the problem we are dealing with here is, and I must say that I do not think any of the agencies have been helpful on this, either.

It is easy to get a grasp when people come up to you and say, "We want to develop this parcel," and there are 15 bureaucrats saying no. I mean, we all can grasp that.

But what I am talking about—you are asking us to embark on a major national program to restore wetlands, which I think we are all ready to do—but I cannot figure out what we are talking about here.

Mr. LEAPE. OK. The most important insight of the Forum, is, that we have to look beyond the limited problem of the regulatory program as it now exists. We have to look at all of the losses and figure out a comprehensive strategy to address all of those losses.

That does not mean that we regulate 10 to 15 percent and then just compensate for the remaining 80 to 85 percent through massive restoration initiatives. It means more broadly that we have to bring together a lot of different strategies for reducing those losses.

Part of that is expanding the scope of the regulatory program, which the Forum advocated. Part of that is finding other nonregulatory measures, whether it is better planning at the local and State level, or incentive systems to encourage conservation, or better public management, to reduce those losses.

Mr. BOSCO. But I think—with all due respect, I understand that. But with all due respect, unless you can better quantify what the losses are and what they are caused by, I do not think that any of us are willing to buy a pig in a poke as far as mitigating something that we do not understand what we are mitigating.

Mr. DAVIS. Mr. Bosco, the missing piece here, I think, is agriculture.

The 80 percent, or whatever the number is, that seems to be unaccounted for in the 404 program, according to the Fish and Wildlife Service and the Office of Technology Assessment of Congress, is probably due mostly to agricultural practices over many years. And that includes things such as direct drainage, which in most cases is not regulatable under 404.

So programs such as Swampbuster and the Conservation Reserve Program have some bearing on that, but during the period that the inventory was done and gave us the numbers that we use, those programs did not exist.

So the numbers are probably down now. The loss rate is probably not what it once was, because we now have additional programs. But in saying that the 404 program only deals with 20 percent or 15 percent, and we are not sure what the rest is—most people believe that most of the rest is agricultural conversions, again over the course of decades or centuries.

Mr. Roe. Will the gentleman yield?

Mr. Bosco. I think my time is up, but I will be happy to yield.

Mr. Roe. Well, I think on this issue, the gentleman makes a very strong point.

First of all, we admit that we have not been able to identify in the first place the inventory of the wetlands other than the so-called maps that have been looked at—aerial maps and that map of 19-what-is-it, that Fish and Wildlife map of the year, whatever it was, seven or eight years ago.

So we really do not have an inventory that I am aware of. There is no inventory, and I think that we would agree to that.

I think that the second point is that we have not talked about the quality of the wetland. We have not really identified what the wetland is. That is an extraordinary variable that was made at the discussions that we had the other day on the oversight when they spoke to Arizona, if you recall the issue.

One of the big issues that this committee, and our distinguished chairman and ourselves worked on for years was the nonpoint source issue as far as pollution was concerned. When you speak to the agricultural issue, and the nonpoint source issue is ten times greater than in effect the point issue, as we have determined over the years—it seems to me that the gentleman from California is pointing out that we are talking about regulating things we have not identified as yet.

We are talking about not having yet established the quality of a wetland. For example, I want to go back to that cranberry issue, if you will bear with me for a moment.

Now, since the 1700's, they have created the cranberry bogs. There were some marshlands, but there were not any flyway areas and so forth, and the increase in wildlife and in bird life particularly has been extraordinary along the east coast, partially because of what they did with the cranberry business.

And you know, that has been a wetland they have created. Now they are being deterred from getting into that. They cannot even move in the field right now, because nobody has quantified or qualified what we are talking about.

How the heck do we have the right to come and regulate something where we do not know what we are regulating? Let me make one point. I am talking too much this morning, but it is in my heart to say it.

As the Nation determines its regulatory approach, and as the Government determines its management program, there is 75 percent of the land which is owned by private citizens of this country.

There is a thing called the Constitution that you cannot just take and take people's land away without due process. We have run through that before.

Now, as we fritter—and that is a delicate word—I am a total environmentalist, my credibility is 25 years of public service—but as we fritter and ask people to make national policy decisions, one very, very important point of this whole issue in my judgement is that those regulations are going to affect the property values of 75 percent of so-called wetlands throughout the Nation.

So if I am improving a cranberry bog, and I am creating a productive crop, or a rice crop, I am creating an income. Therefore, my property has value in the sense of human uses of land. If I am going to come back and regulate 75 percent of this land by regulation, and take away the use from the people, when they have a monetary and economic value, am I not doing a great deal of damage here without properly considering this entire issue?

I thank the gentleman. I just wanted to get that point on the record.

Mr. **Nowak**. Would anyone like to comment on this?

Mr. **Leape**. Yes, could I?

Mr. **Nowak**. Go ahead.

Mr. **Leape**. There is no question that there is a lot we do not know about this resource, whether the question is understanding all of the functions served by a wetland, or how to evaluate those functions, or knowing in detail the status and trends in the resources.

For anybody who is active in environmental conservation—that is a familiar problem. Most of the problems in our field are problems that we do not know a whole lot about, and we are often required to act in the face of that kind of uncertainty. Here there is no risk that we will act to conserve wetlands towards a goal of no net loss and somehow overshoot that goal. The evidence that the losses are huge is too compelling. The tools at our disposal and the prospects of immediate enactment are too limited for us to be in any danger of overreacting to this crisis.

So while everybody in the Forum and elsewhere agrees that we have to know a lot more, and we have to do the research necessary to get a more sophisticated understanding of the resources, that is not a reason in the Forum's view—I think it is safe to say, and certainly not in our view—a reason to withhold action altogether, or to stop progress toward reform of wetlands conservation.

Thank you, Mr. Chairman.

Mr. **Nowak**. Mr. Leape, in addition to what you have just said, one of the identifiable results of our economic expansion—and I use that in the broadest terms, which would include both farming and residential construction of everything from malls to roads and highways—have added up. I would assume that the figure of 240 million acres that once existed and now through that initial mapping device that was provided by the Fish and Wildlife, most experts in this field attest that we have 99 million plus or minus acres left in the country.

One of the reasons that I think we are looking at this, and the difficulty of course has been enunciated both by Mr. Bosco and Mr. Roe—it is very difficult to get a handle on this. It is very difficult to realize the long-range impacts when we are discussing wetlands, because the results of the takings, if you will, are not evident all the time.

The whole system that produces 50 percent of our fishing industry off the coast of California starts, perhaps, in the wetlands area, which is the feeder and the breeder in the estuaries in New Jersey and Maine and all throughout, I understand, the coast of Texas and Louisiana.

Unless those wetlands have at least the quality to reproduce the results for that ecosystem, we are going to start finding that the threat is there as conveyed to me by many in a scientific community—you are going to see some large economic impacts if we do not start taking actions now.

What we are going to have to pay is going to be offset by the retaining of a lot of economic interests on the other side. So you are really trying to balance the system out, and if we do not take action now, it is the old question of, "Well, let's do it in 10 years." Well, in 10 years you might be down to that critical area of 90 million, maybe 80 million.

But scientifically we do not know exactly what that number is. The President and conservation and other members of the scientific community are looking at this as perhaps the lower limit of where we should be, and we have got to start now, putting some resources into developing this quantity back.

It is not only just to sustain what we have, in terms of quantity. It is really the quality. The producer of all of the other benefits that these ecosystems provide—I think we have got to examine this balance that has been talked about, and really start to put some efforts and some dollars behind this program, or again we will be sustaining those losses, and they are very hard to document.

I would daresay that we are probably talking that we document 10 percent of the losses through this program, and 90 percent are just going to go on, unless we can get the States more involved, unless we can get a much broader information base out there through the general public who are going to be dealing with these things the majority of times. And even the States are going to have a difficult time unless we get them some resources to deal with this problem also.

I think that all of those things really come into play, and I think that is the concern that EPA has expressed. We realize that we have got to get inventories. We have got to get not only those inventories by Fish and Wildlife, but hopefully through this legislation, we can exercise not only the States but the local governments to take a very, very active role in encouraging, in the last analysis, as Bob pointed out—75 percent of all of this wetland is controlled by private interest.

So whether we have 100 percent saving or 25 percent, it is not going to do us much good if 5 percent of that 75 is eroded every year. You are going to hit that so-called de minimis line where you are going to have tremendous, large economic impacts.

Mr. Bosco, I was out and drove over some of the rice fields in Sacramento, looking at a project called the Auburn Dam, which I am sure you are familiar with up there, in terms of the expansion of the rice industry there, and the practice of burning rice after it has been dried in that area and then reflooding to start the crop process over again.

The balance of that water, of how much of that mountain freshwater they are going to use for that, is going to become critical as we start to balance the uses of water, and we look at consumption versus the flooding of a field, and where the economics are in terms of the highest possible use for that water.

So I think that we are right on the beginning of something that could be of great value if we could keep this momentum going and get everyone to realize that the vast significance of this is not in the terms that we will be in Congress, but for the next 25, 50, or 100 years. We will start restoring some of that balance that I think has met that critical level.

Let me go on to Mr. Lightfoot.

Mr. LIGHTFOOT. Thank you, Mr. Chairman.

We are trying to juggle two hearings here this morning, so I am going to ask two questions here quickly.

Carrying on with what Mr. Roe was talking about a moment ago, with 75 percent of this land being privately owned, and Mr. Davis, I think that you said that probably 80 percent of the problem was agriculture—the question that comes to mind on the memorandum of agreement is since agriculture is going to be so vitally affected by this, why weren't the major commodity and agricultural groups invited for input when this agreement was put together?

Mr. DAVIS. I can answer that question more generically than with specific regard to agriculture.

When we put this memorandum of agreement together, we did so under the understanding that it was purely a matter of clarifying internal policy for our two agencies, not creating new policy or new regulation. As such, we did not seek comment from outside groups. We worked within the two agencies.

So we did not specifically exclude agriculture, because we did not really include any outside group.

While we have come under great criticism for that, which is no surprise, we still feel confident that we were within the bounds of normal administrative practice, because we were not creating new policy, and we still stick to that.

Mr. LIGHTFOOT. As you are aware, most people, at least in the agricultural community, do not share that belief.

Mr. DAVIS. I understand that, sir.

Mr. LIGHTFOOT. They feel like this was something put together behind closed doors, and they are going to run us out of business with a bunch of regulations.

I guess as a bit of an add-on to the question that was brought up about rice bogs and cranberry bogs and so on—we have the same problem with corn and soybean fields. I know a farm that's been farmed for four generations as corn and soybeans, and all of a sudden it is a wetland. How do you justify these things? Just the appearance out in the country, and maybe it gets back to this focus thing that Mr. Bosco and Mr. Roe were talking about—the knee-jerk reaction out there.

At this point, I think it is very legitimate. Also, you throw in Swampbuster on top of it, and we have got people who have had drainage ditches in places for years that they cannot clean the trash out of them now, because they are going to violate that particular program.

You are finding people in the agricultural community who are extremely upset that—they have purchased the land, and spent thousands of dollars and many years of their lives farming it and cultivating it, and all of a sudden big brother comes in and says, "Hey, this is a wetland. You can't farm this anymore."

I guess we would feel a little more comfortable if we had some assurance that some of these things were being taken into consideration. Maybe that is a public relations problem that you all have got to battle, but it looks to me like some kind of a policy is needed which would exempt converted farmland, whether it be rice or cranberries or corn or soybeans or whatever. If it is something that has been there for a number of years, it would be appropriate to exempt that.

Mr. DAVIS. Sir, we are looking at all of those possibilities, because this has certainly become an issue that has achieved considerable prominence.

I think it is safe to say, however, that there is no policy that says that we stop farming on agricultural land that has always been farmed. The question comes in connection with conversions to new uses, and that is where the debate over whether or not it is exempt under 404(f) comes into play.

If someone has been growing soybeans for however many years, and continues to grow soybeans, there is no action on our part. There is nothing that you would have to consider.

It is when someone puts in a levee to turn a soybean field into a catfish pond, for example, that then there is a question. At that point, there is a conversion to another use, and a change in flow and circulation.

But continuing with soybeans is not at issue, or at least it should not be.

Mr. LIGHTFOOT. But it is an issue.

Mr. PACKARD. It would be interesting if we had a policy that would say no net loss of agricultural land in this country—a generic policy that would impose upon us the restriction and the requirement that we would replace any developable land or land that came out of agriculture to be replaced with agriculture.

That is what we have got in this case, where you have got a general policy of no net loss, and everything else has to suffer to meet that requirement.

I do not think there is anybody on this committee that does not agree on the general principle that we ought to maintain all of the wetland and all that we can. But at the same time, we sometimes lose sight of agriculture being a very environmentally and a very economically beneficial part of our society and our country.

Here, agriculture seems to be suffering in many instances, simply because a farmer may choose to change his land from one agricultural produce to another agricultural product, and thus find himself in that.

Mr. LIGHTFOOT. I think that—the point that we are trying to get to on this is some definitions, to start with—some clearness about where we should be.

In defense of the farmer, somehow he gets painted the bad guy in most of the scenarios that come out of this town, which I do not quite understand.

The whole environmental issue, for example, that we are going under now in the use of chemicals and pesticides and so on, in this day and age, the farmer has to get a license to go to the store and buy pesticides. He has to go to school to learn how to use herbicides and pesticides and chemicals.

But the rest of us in this room can go down to the local garden center and buy any darn thing we want and pour it down the drain. But the farmers are the guys who are getting accused of being the polluter.

How about all the salt that we put on the roads? I mean, we could go on and on with this thing. But speaking for the agricultural community, there is a very real fear amongst people that they are going to be legislated out of business one way or the other.

Part of it is this, and part of it is the ag program, and the way that the Swampbuster thing, for example, is being administered. Legally, in our State now, you cannot go in and clean out a drainage ditch that has been there for 110 years. If you do, you are violating the Swampbuster program.

Now, if you do not clean the ditch out, you are going to end up putting some of these lands that probably would qualify as 404 wetlands—it would take them totally back out of production again.

The guy out there on that land, he feels that vise coming down on him on both sides, and yet everybody in this room wants high-quality food at a cheap price. You know, something has got to give someplace. We should not be adding to that burden, I don't think.

Thank you. I need to go to the Aviation Committee now and raise heck down there. [Laughter.]

Mr. Nowak. Well, you will have to take care of the flights over the farmland on the crops—the noise and pollution.

Mr. Lightfoot. The noise, that is what is causing the problem.

Mr. Nowak. I wonder if any of our panelists would in concert look at this question of additional versus present land use in the agricultural community, and provide the committee with a clear and concise analysis of that issue from your three respective backgrounds.

I think this will be, as you have heard this morning, a very contentious issue, and I think that we have got to provide members with the information that either it gives them a good basis when they are confronted in their own districts with these kinds of limitations on their land use—clearly, why and how the Swampbuster is being effectuated and how, of course, the complaints and the new land use, if you will, and the complaints about that versus conversions, and so forth—I think it would be helpful if we had a very concise and good paper.

In fact, I was going to make the point, before Mr. Lightfoot left, that you did have some representation on this Forum by ranchers and farmers. Is that not true, Mr. Leape? I wonder if you could discuss the input that they had?

Mr. Leape. It is certainly true that there were three farmers on the Forum, in addition to a rancher, John Turner, who is a veteran of the U.S. Fish and Wildlife Service. There is no question that these concerns about the application of the regulatory program and other wetlands conservation measures in the agricultural context, were discussed by the Forum—I am not in a position to elaborate on the Forum discussions. But there is no question that this was a central issue, and maybe Mr. Barrows would want to talk about it some more.

Mr. **Barrows**. Being a veteran of many years of making permit decisions, where the controversy comes into play with the agricultural activities, be it beans or cranberries, it is not the ongoing operation, it is the price of beans or the price of cranberries that goes up, and they want to bring in 40 acres of bottomland hardwoods that had not been converted in the past, and they want to construct levees so that they can get crops 5 out of 5 years instead of 3 out of 5 years.

In the case of the cranberry situation, where you have an ongoing operation that works quite well without regulation from us, but then decides that they want to take a fairly diverse adjoining wetlands system and convert it to a monoculture such as cranberries, it becomes very controversial and very contentious, and that is really where the decisions turn.

Until we come up with a better approach, we are having to make those decisions case by case. We certainly give full consideration to the environmental and the development interests, the agricultural interests, before we make that decision, but it is very, very tough to balance those competing uses.

Mr. **Nowak**. Well, I understand it is difficult, but for us to make some progress here in the overall issue, I would hope that you could provide, and perhaps even a joint reference paper that I could distribute to all the members here, and perhaps on a much broader basis later—it would be helpful.

Mr. **Leape**. If I could respond just a little more fully to your question—the Forum report and its concept paper on Federal legislation in recognition of the kinds of problems that we had questions about today, emphasizes the need to take other approaches, to the problem of protecting wetlands on agricultural land.

So, beyond regulation, we should also be, for example, supporting an agricultural wetlands reserve program that can, through nonregulatory measures, get those wetlands protected and degraded wetlands restored.

Mr. **Nowak**. Thank you very much.

Let me now turn to Mr. Sangmeister, who represents the great State of Illinois.

Mr. **Sangmeister**. Thank you, Mr. Chairman.

As I sit here, I see that we have a little problem defining who has jurisdiction.

I think the other thing that we need to clarify, if possible, is where that jurisdiction is going to be. That comes from having served in the general assembly for a while. I am interested in where the States and the Federal Government are going to come down.

As I see the Forum report here, it says that it is a recommendation that the States shall be allowed to assume permitting responsibilities under section 404 of the Clean Water Act, including those in navigable waters and adjacent to wetlands.

I address this question to all three of you. As I see it, Mr. Leape, your position is first. Do you think the States ought to assume all jurisdiction over all wetlands?

Secondly, you then state that it should be gradual—one piece at a time. I have a problem with that. How you are going to pick out these pieces and how is that going to be administered—that we are going to do this piece but we are not going to do that piece.

Also, Mr. Barrows, your position apparently is that this causes you some concern for the Corps. Does that mean that you oppose the States having jurisdiction in that area?

And Mr. Davis, your position is that you're discussing it with the Corps. So I get the feeling here that everybody is dancing around a little bit. Of course, it is not unnatural for Members of Congress to dance on issues as well—but I would like all three of you to address the States' role in this entire matter.

Mr. LEAPE. Mr. Sangmeister, the Forum emphasized that the States should be taking a lead role in wetlands conservation efforts, and as part of that that Congress should take action to facilitate delegation of authority under section 404 to the States.

It was the Forum's understanding that that delegation could occur only where States have demonstrated that they have the authority and the capability to implement the program, and where they have prepared a Statewide wetlands conservation plan that shows how they are going to implement that program under an overall goal of no net loss.

So it is not carte blanche authority to the States to take over regulation. It is carefully circumscribed to make sure that delegation happens when a State is ready to take over the regulatory program and implement it as part of a comprehensive plan.

A part of facilitating delegation to the States, is the provision that delegation could be piecemeal. For example, a State might be willing or ready to assume jurisdiction over, say, the wetlands in one river basin, and that it might not yet be ready to assume jurisdiction for the entire State.

In that case, it may be valuable to EPA and the Corps to have the flexibility to approve delegation for that one river basin as a first step on the State's part—for a discrete ecosystem, a discrete set of wetlands—without requiring that the State wait until it feels capable or it is capable of regulating all wetlands wherever they appear.

Mr. SANGMEISTER. But who calls that shot? Is the State going to say, "We want this one?"

Mr. LEAPE. I assume the State would first say they wanted it, but the Federal Government, EPA and the Corps must approve.

That is the reason for that provision, it is to facilitate delegation in the hopes that States will, when they are not confronted with an all or nothing choice, be able to move into assumption of jurisdiction.

Mr. BARROWS. We have supported transfer of the program to the States. We have worked with a number of States over the years, to try and make that happen. Regrettably, we have not been very successful in doing that.

There have been three reasons presented to us most frequently as to why that does not happen. Number one, the State may not be equipped to take over the entire program. For example, they have a good, solid coastal regulatory program, but they are not ready to take on some of the inland areas.

Under the current transfer authorities, they have to transfer the entire program, at least what is available, or none at all.

The second has to do with funding and certainly I can understand why the States would be concerned about that.

The third issue has to do with "why should we in the States take on only the non-navigable portion of this program when a lot of the action is occurring in the areas that are navigable? It seems like we will be buying ourselves a lot of conflict and confusion if we have got the Feds doing part of it and we are doing part."

So it is part of the wetlands forum—our comment certainly was that we could envision a circumstance that would work, where the States could take over navigable portions. The thing that we have to consider, and consider very carefully, though, is that they are still going to have a Federal role in determining interstate commerce, in determining the use and impacts in interstate resources, whether it be by transfer mechanism or whether it be by an agreement between the Corps and the States. I believe it can work.

But on top of that, and why I have expressed some reservation, is that we still must maintain our authority to regulate for interstate navigation, for national.

Mr. DAVIS. I do not think that I can add very much to that. The points that Mr. Barrows has made are the same ones that we would make about the expansion of jurisdiction.

From a strictly environmental standpoint, clearly it would be desirable to let the State have all the waters. But the questions of the navigable servitude and the effects on interstate commerce and so forth become very real issues, primarily for the Corps and for others, and therefore require our working together to formulate an administration position, which heretofore really has not been called for. The Clean Water Act has not been up for reauthorization, or at least this set of issues has not been opened.

We have been doing what we can, though, to promote State transfer and State delegation. As Mr. Barrows also said, it has not been very successful. We have put some grant money into that over the years. We have provided technical assistance. We do workshops, we have lots of day to day contact between our regional offices and State people who are interested in wetlands, but for the reasons that were stated, the States have not seen fit to come forward and seek delegation with the exception of Michigan and New Jersey, which has a pending application.

Michigan's was approved some years ago. Their program is up and running. New Jersey submitted an application about a year and a half ago which was incomplete by their own admission and everyone else's, and we are working with them to try to get that complete so that they can be the second program.

But the other point you made about partial delegation—that is not the desired end goal, that is simply a way of making it easier so that, as we said, it is not an all or none choice.

We would much prefer to have the State take the whole program, but for some States, they simply do not see that as an option.

Mr. **Sangmeister**. Well, inherent in the question of course is—to somewhat accommodate people who are looking for permits and the public in general, so that they know where to look—there is nothing more frustrating than to be moved from EPA to the Corps of Engineers to the State agency, and pretty soon people say, "Just who does have the authority to decide whether or not this permit is going to be given?"

I think that we ought to reduce that to one or the other agencies, and maybe that is oversimplistic. I do not know.

But thank you for your comments.

Mr. **Nowak**. Thank you very much.

One question in reference to that 404 permit program, in relation to your recommendations that have come out—the States, I do not think, or the Governors' Association has put together a position—they have not formally contacted us. I wonder if they are in receipt of your document and the other recommendations that have been made, and if you had any contact with that Governors' Association? Do you plan to have contact through your various agencies?

Mr. **Leape**. We have had considerable contact with many of the States that are trying to implement the Forum recommendations.

In fact, there have been forums in nine States trying to develop strategies for their program. We have not in recent months been working with the National Governors Association, but we expect to be working with them in the future, and also with the environmental compacts of the States. We have been working with these organizations and will in the future.

Mr. **Nowak**. Well, I would encourage you to do so. It would be very helpful if we are going to plan to invite—since they have requested it—the Governors' Association to come before this committee at a later time.

Hopefully we can at least get some broad consensus as to the direction that this committee should be moving in to garner that broad support, and in pursing that, I hope that you can let us know where you find particular problems out there.

We already know the MOA was changed to some degree from the November 15 to February date, and I hope that we could move forward, and if we get that kind of cooperation, we could develop the House and I think the Senate bill very quickly.

Let me now turn to Mr. Packard of California, the rice capital of the world.

Mr. **Packard**. I am going to address the question a little bit on the States, and comment briefly.

One of the reasons that the States do not want to take over the area is number one, there is no move to transfer the policy part of the program over to the States. That is simply mandating what they are to do and telling them how they must do it, and that is something that the States are not enamored about doing, especially when there are no funds attached to those mandates. That is very important to people now. They are getting more and more resistance to Federal mandates without the funds to help implement them.

But until there are policy opportunities passed on to the States, they are going to be reluctant to accept it, simply because each

State has its own set of problems, different from one another, relative to the replacement of habitat.

So that is part of the problem, I think, that we are having in our States and why they are not overly anxious to accept those in responsibility.

I would like to have someone describe for me the mechanics of the mitigation banking process and the exchange process, how that works, and if it is working well. Are we having success in that process?

Mr. **Davis**. The mitigation banking process is not a single defined entity—rather it is a phenomenon that has evolved around the country somewhat on its own.

In our Memorandum of Agreement on Mitigation, we do acknowledge the fact that it may be an acceptable form satisfying the obligations of mitigation, but we refrain from being more specific on that because it is still a fairly young process. It has not been practiced for very many years, and there is not a lot of experience with how well it works.

In many cases, it has evolved as a solution to a particular local problem. For example, a State highway department recognizes that it will need many small wetland fills in terms of right-of-way crossings, and they work with the local Corps district and EPA and the Fish and Wildlife Service and the State and anyone else who might be involved to develop a process whereby they can collect the debits, if you will, from the wetland losses along the right-of-way against a set of credits from a consolidated wetland restoration or creation project somewhere within land that they own or acquire.

The advantage or benefit to that process is that rather than having a lot of little piecemeal wetland creation or restoration projects all along the highway that may or may not work, and perhaps, as Mr. Roe noted, may not be managed in the future, this allows one to consolidate that mitigation into one area that is large enough to have some value, perhaps, and which can be put under some kind of management to be sure that it functions well.

Thus far, these kinds of arrangements have evolved more or less as agreements or almost as contracts between the various parties that were involved. The key to them is a clear understanding of roles and responsibilities and some agency or entity willing and able to provide long-term management in that area.

That has been found and has worked in some cases. I am afraid I lack data to tell you how many of these kinds of banks are in existence around the country, but I think it is now in the dozens. It has grown rather rapidly in just the last few years.

Mr. **Barrows**. Could I just make one additional comment? Another example of how it has worked in the past—these are decided case by case, but we have also had some experience and success in port developments, where the port would do a master plan for their development area.

As part of that master plan, they would include a mitigation area. A variety of things could be accomplished in that mitigation area, including constructing new wetlands, and they would use that mitigation area as credit for future development as part of their comprehensive plan.

Mr. NOWAK. Are most of these done with mitigations like a port district or some semi-public entity working with other public entities, or is there very much of it done in exchange or banking on private properties?

Mr. BARROWS. Most of them are not done on private properties.

Mr. PACKARD. I see.

Mr. DAVIS. There are, however, some exceptions. Tenneco Corporation on the coast of Louisiana has one of the first wetland banking operations that I am aware of, and that was done on their own lands and designed to deal with relatively small but numerous fills and alterations that they would need as part of their oil development plan in that region.

Mr. PACKARD. And what kind of contractual or binding arrangements were made to keep that land in wetlands? Twenty-five years from now, if you sell the property, the new buyers, without proper notification, may find themselves looking at constraints on their property that preclude them from doing certain things.

I sense where there could be—I know in our city, where I was involved, we had development rights that could be exchanged for a period of time. We had to abandon it, because people were selling their development rights to somebody else, so that they could go ahead and develop their property, and then they sell their property, and the people buying it certainly have an expectation that they could subdivide their property and build, and yet they had sold away the development rights.

There are all kinds of long-term problems that I can see. What kind of precautions are there to prevent that?

Mr. BARROWS. I can only give you a few examples. The problems you mention are certainly real.

If we had relied upon a credit from a mitigation bank from a decision, then that becomes a condition of that permit. If there was a permit associated with the development of the bank, then certainly the permit would be a contract, and we do have authority and do, under some circumstances, make a notation to that effect on the deed of record, so that if that property is sold——

Mr. NOWAK. In Tenneco's example, if that property is sold and the identification of wetlands is there, and active at the time of the sale, as we go through the procedures looking at the concept of respective purchaser real estate, would these wetlands not also be noticed almost as well as the identification of hazardous problems with property?

Mr. BARROWS. Well, there are wetlands that certainly are easily identified by a person who really is not in the field.

But there are a number of wetlands that are also marginal in nature, and not so easily identified. I can say, certainly, in the last 10 years, the awareness concerning wetlands has increased dramatically, and most folks nowadays cannot say "We just did not know, or did not understand." But we still do run into that.

Mr. NOWAK. Well, one further question is, do we need identification when those kinds of wetlands are declared and protected? Do we need filings by the States so that everybody becomes on notice as of the date of the filing that perhaps if they fill that area, they would have problems because of a notation on the deed, when the search is being done by the purchaser?

Mr. **Barrows**. In concept, sir, that makes very good sense. I would just have to point out that right now we do about 50,000 to 60,000 jurisdictional determinations every year, and if we add to that an additional responsibility to ensure that all of those are noted on the deed of record, we are buying into considerably more work on the part of the Federal Government, and more cost.

Mr. **Nowak**. Well, all you would have to do is—you have got the bounds and description of the property. All you have got to do is pay the fee for the recording, I would think. The State may even waive the fee so that they might start to develop an inventory and a knowledge of what they have within their particular State.

Mr. **Barrows**. In some cases, that is true, sir.

In many of the maps that are provided by permit applicants, there is the property as it appears on the ground, and we map the wetlands based on how they appear on the ground.

Translating that to a deed situation would be another question.

Mr. **Nowak**. Well, maybe administratively we could provide more money for that survey.

Let me turn to Mr. Hayes from Louisiana, the rice capital of the world.

Mr. **Hayes**. There are some questions that I would ask the Chairman to indulge my asking at a later time, rather than prolonging the hearing.

Mr. **Nowak**. Without objection, we will let all the members have that opportunity.

Mr. **Hayes**. Thank you, Mr. Chairman.

I would like to ask a question based upon this observation this morning. The term "loss" does not mean the same thing to me that it means, for example, to Chairman Roe or to Peter in Oregon.

The term loss as it affects some of the people in the audience through their own experience of where they grew up or where they live, means that someone wants to put a shopping center on a wetland, or someone wants to build a levee. But in south Louisiana, the loss is through the constant erosion and saltwater intrusion.

Our ecosystem is a balance that requires both the entrance of fresh waters washed out from salt water that has moved in at different times of the seasons. We do not have farmers who fight with developers, we have farmers who fight with fishermen. We have shrimpers who look for a higher saline content and rice farmers who do not want any salt water at all.

Based upon those kinds of observations, in the area in which I live, I first want to ask Mr. Leape if that is not what he has in mind when he talks about States administering a program, because there is such a very difference in what is the term loss as it means to some groups and others.

Secondly, if it does not connote, also, that it should be incorporated into the mission of the Corps and into the concerns of the EPA, not a rigid national standard by which that term remains frozen into place for places where it will not apply, but an understanding that you have to have a system of entrance and exit, egress and ingress, in a State like Louisiana, because that is what preserves the wetlands—not building a wall along the Gulf of Mexico. That would in fact destroy the wetlands, and likewise, opening up entirely for salt water intrusion would destroy agriculture.

Would each of you please comment upon that, and tell me how the term loss is interpreted by you and especially by those who participated in making these recommendations?

Mr. LEAPE. I will take my shot at your question, and then you can tell me if I have answered you.

There is no question that in adopting a goal of no net loss, the Forum provided flexibility to account for changes in the wetlands resources. Some wetlands would subside or be filled in, and other wetlands would be created or restored to offset that loss.

It is also clear that the Forum envisioned that the States would take the lead in getting to that goal, and that would give the States the flexibility to accommodate the pursuit of no net loss to the different circumstances of each State.

In Louisiana, clearly, it has a very different situation than is faced by the State of Kansas, so that that flexibility is built into the system.

Now, I do not know if that is what you are asking about or not.

Mr. HAYES. Yes, because then as we get to the permit process, let us say that the State has a plan. My State right now is circulating a coastal plan.

As part of that plan, it might well mean the loss of a wetlands in order to save an enormous amount of wetlands. Doing nothing is our greatest enemy. It is not a matter of someone fixing to construct something, it is a matter that if we do not do something somewhere, we are going to continue at 40 square miles a year.

So our definition of loss is quite different than someone who is faced only with the prospect of whether someone growing soybeans is going to build a barrier that was not there before. We have got to look at it in terms of building barriers as well as in terms of allowing fresh water to flow, as well as in terms of allowing saline water to come in at times of the year, or there will be no commercial fishing industry in the Gulf Coast of Mexico.

Mr. LEAPE. There is no question that key to the Forum's recommendations is the recognition that you cannot conserve the wetlands resource—never mind get to no net loss—by just focusing on the most conspicuous human activities that threaten wetlands, like filling for shopping centers or even agricultural causes. You have to look at the whole picture, and that means that you have to look at the natural causes of loss that you have in Louisiana, or causes of loss from past human activities.

And you have to have a reasonably sophisticated understanding of the dynamics of those wetland systems to understand what kinds of strategies for conserving them will get you to no net loss. I do not think that anybody on the Forum or here would argue that nationally or in Louisiana we should get to no net loss by walling off wetlands, or by simply focusing on shutting down fill activities.

You have to look at the whole picture, and understand how the wetland systems work, to get a meaningful——

Mr. HAYES. Let me ask an additional question. I realize I am monopolizing your time, but——

Mr. LEAPE. I am free.

Mr. HAYES. If we take the 75 percent figure—which by the way applies in Louisiana directly, as well as nationally—75 percent of the State of Louisiana is in private hands in wetlands.

Can we not use that as a strength rather than a weakness? If we are talking about State interest—and Mr. Packard's comment earlier—what would make a State interested in taking over a program without direct funds?

Suppose we were doing it in a system of tax credits, where the owners of the property affected are not avoiding permitting, but are given an incentive, and the State incentive becomes one of knowing that the State is going to have money spent that is going to affect the public purpose and all others who live there, and that the funds that are enticed through tax incentives will go much farther than a small national program throwing a few dollars, and fought over by 50 States, some of which would be Kansas with way less of a problem, percentagewise, of wetlands ownership than Louisiana?

Would that not most entice States, and would that not most entice those that are taxpayers into believing that they are getting a return for that kind of investment put on property? As I say, I do not suggest that we skip permitting, and let anyone build whatever they please. This is in the context of good environmental policy and approvals.

Mr. LEAPE. I think there is no question that one of the great incentives for States and for conservationists and developers in encouraging State delegation is the prospect that States can bring to this problem a broader array of tools than can the Federal Government. In particular, they can bring to this problem a set of nonregulatory tools like the tax incentives we talked about, and advanced on the ground planning that really charts where the wetlands are, where restoration activities make sense, and how we can channel developments consistent with those concerns.

The States, because of those capabilities, can do a much better job of not only conserving wetlands, but avoiding the kinds of constitutional and political problems we face under the regulatory program with the Federal Government. And that is a major incentive for States to take over these programs, and it is a major incentive for everybody involved in this issue to promote State involvement.

Mr. HAYES. Let me ask others. I did not mean to exclude your comments—in fact, I very much want to hear them.

Mr. BARROWS. Well, I believe my definition of loss is the same as your definition of loss, whether you have built a wetland for the construction of a dam, and certainly taken that wetland out of existence, or you have inundated the wetland with the 80 or 90 feet of water that will occur behind the dam—you have taken that wetland out of existence. That is certainly the case as you have described in Louisiana.

I guess from a permitting standpoint, we deal in the context of practicability. Certainly the 404(b)(1) guidelines are environmental criteria to avoid losses. The decisions concerning practicability, in my judgement, have to be made at the regional level. That is why we run our program through our various Corps districts, and we rely on our district engineers to make those decisions.

I very strongly supported the concept in the wetlands forum of State comprehensive plans that would make that decision process better.

Mr. **Davis**. As the third man on the list, there is not a whole lot left to say.

The one point that I would make is that in the regulatory program, we do not use the concept of loss as an explicit regulatory factor. Rather, we talk about the loss of functions and values, so that when we work at a particular permit application, for example, we look at what values of the wetland are going to be diminished or destroyed by the proposed activity.

That may range from flood control to wildlife habitat to production of commercial fisheries or any number of things. So we do not have a single thing called loss. And I think because of that flexibility, as it is exercised in the field, it is easier to deal with these geographic differences.

At the opposite end of the spectrum, the Kesterson National Wildlife Refuge in California, which was receiving irrigation return flows containing extremely high levels of selenium and certain other heavy metals—those wetlands are lost but they are still there.

If you stood there, you would say, "But the wetland is still here." But they are lost ecologically because they have been polluted to the point that they are not functioning anymore. So I think it is important to bear in mind that we have that flexibility.

Also, with particular regard to your situation in Louisiana, in the new memorandum of agreement that we have discussed here, the mitigation MOA, we do have the concept in that of recognizing discharges that are made for the purpose of protecting environmental values, or even for environmental gain. I think that we have raised that to a little more prominence or standing than it had had in the past, in large part because of situations like Louisiana where we recognized that building some barriers and building some diversion structures and so forth, and perhaps actually discharging spoil materials in areas of shallow water, were in fact positive things, whereas heretofore they had often been considered negative. So I think that we have got that flexibility in our regulatory program. It is just a matter of exercising it.

Mr. **Hayes**. Thank you.

Thank you, Mr. Chairman, for allowing us to put the questions in at a later time.

Mr. **Nowak**. Thank you very much.

We will turn to Mr. Petri from Wisconsin.

Mr. **Petri**. Thank you.

It has been a very interesting hearing for me, and I guess that I do not know exactly to whom to address this question, but maybe Mr. Barrows from the Corps of Engineers or one of the others would want to answer it. Are all wetlands viewed as equal, or is there a hierarchy of wetlands? They are clearly quite different things when we are talking about Louisiana wetlands and Minnesota wild rice type wetlands, or the Horican Marsh in my district.

Are they all of equal value? When we talk about no net loss, is it just acres of land covered by water, under some definition? What are we really talking about here?

Mr. **Barrows**. There is quite a difference in the value of wetlands, and that has been recognized both in our regulatory program and in the report of the wetlands forum.

In our regulatory program for a number of years we have made reference to important wetlands, given them different consideration than low-value wetlands. In the mitigation MOA, we discussed that there are differences in wetland values, and when you are contemplating an appropriate level of mitigation, you have to take into account the value of the wetlands.

In the wetlands forum report there is a section that deals with regional general permits, and it does provide some recognition that under a State plan, and for low-value wetlands with compensation, certain wetland losses could be accommodated through permits. It is very deeply defined within our program, that the values are different.

Mr. PETRI. So for regulatory purposes, when the Corps of Engineers wants to develop a shopping center or till a field or build a housing project, even though it is categorized as wetlands, they might be able to do it if it was low-level wetlands as opposed to high-level wetlands?

Mr. BARROWS. The impacts to low-value wetlands are generally less controversial than to high-value wetlands. Sometimes, however, low-value wetland may be the only wetland around—and by that nature it becomes more controversial and more important.

The value of the wetland is reflected in the permit decisions. We certainly do issue many more permits than we deny. The statistics I gave earlier today—last year, 9,500 issued, 500 denied. The vast majority of the permits that are issued, though, are modified through the evaluation process, or conditioned to cause impacts to be minimized or to provide mitigation to offset losses.

Mr. PETRI. And Mr. Leape, would you agree that it is in keeping with the spirit of no net loss of wetlands to have some expansion of high quality wetlands and upgrading of existing wetlands to high-quality wetlands while losing some low-quality wetlands, or do you think that we need to keep a constant acreage?

Mr. LEAPE. There is no question that the Forum recognized that you could not implement no net loss on an acreage basis alone. You have to recognize function, and the differences in wetlands functions. Some wetlands are more valuable or serve different functions than others.

The Forum recommended that no net loss judgments be made on the basis of a combination of acreage and function.

I think that everybody agrees that we do not know as much about assessing functions as we would like to know, or as we should know, and that as we implement these programs, part of implementation needs to be work on refining our ability to make judgments about function, so that we can better make those tradeoffs. There is no question that both have to enter into it.

Mr. PETRI. Just one or two more specific questions.

The cranberry people have been in, at least to my office. Wisconsin is second to Massachusetts and ahead of Florida as one of the three major cranberry growing areas in our country, but there is a rapidly growing fourth area, the Ocean Spray people tell me, and that is just north of the border up in Canada.

Those people also belong to the Ocean Spray cooperative, so they can keep track of production and know that while there has been almost a freeze on permits for new beds in the United States, there is no similar freeze in Canada, and as a result we are moving that industry to north of the border.

Does this really help the world environment? Why is it that we are either not coordinating with Canada, or denying people permits for monoculture or single-use wetlands, because these are wetlands after all. Just because someone makes a buck out of it does not necessarily mean that we ought to completely discourage it or move it out of our own territory.

Mr. BARROWS. The cranberry growers and the blueberry growers have also been in to see me, and about a year and a half ago, I made a trip up the east coast and visited with a number of the growers on site, looked at their operations, and gave them an opportunity to explain to me some of the permitting problems that they were encountering.

While they are able to get permits, there is no question that they are able to get permits—and there is no question that some of their activities are exempt—they do run into problems when they want to convert principally high-value wetlands to a cranberry bog. And that controversy will continue to rage.

I guess from a program management standpoint, we need to balance those things out and focus on the ones that are the areas and the aspects of the conversions that are truly important and not get too wrapped around the axle about some of the more minor activities.

In some of our districts, and even at the national level, we are considering some mechanism for general permitting that might help with the agricultural issues, but again, those general permits would not cut to the issue.

Mr. PETRI. We had just finished an unsuccessful fight in an area that had historically been—when the Indians were there and when the white men arrived—listed as a natural cranberry area, in the Berlin Marsh. People tried to get permission to put cranberries back in and were denied because it was a wetland.

So I guess it kind of depends on how you want to look at some of these things as to whether you are helping Mother Nature along, or returning things that had been drained. In this case, they wanted to return it to what it had been before civilization arrived and were denied on environmental grounds. It seems rather curious.

Does the same regulatory scheme apply to Indian tribal wetlands in the United States, or are they exempt from all this sort of regulation?

Mr. BARROWS. No, it still applies. There are some unique circumstances, and I will ask Mr. Davis to respond on that issue. I am not completely up to date on that.

There are some unique circumstances—there are some situations with Indian tribes where they can exercise some rights similar to State rights.

Mr. PETRI. Are they not protected by their treaties from regulation in some cases? They certainly are from State regulation.

Mr. DAVIS. Sir, my understanding is that while they indeed are protected from State regulation by their domestic dependency sovereign status, they are not from Federal regulation, although some of the Indian nations themselves contest that.

That is an issue that continues to rage in the courts. The Federal Government's position for some years has been that things like environmental regulation at the Federal level do apply on Indian tribal lands, and we have been exercising them there in a variety of areas.

I would just note that Indian tribes are now also eligible for assumption of the section 404 permit program, just as States are. Since the 1987 amendments to the Clean Water Act, if they can demonstrate that they have the requisite administrative and legal apparatus to run a regulatory program, they may take it over just as a State would.

Thus far, no tribes have made applications, but a couple are doing feasibility studies to consider it.

Mr. NOWAK. Thank you very much.

Mr. Laughlin from Texas.

Mr. LAUGHLIN. Thank you, Mr. Chairman.

I will have some questions to put in, and I would say to you that I think all of us on this panel support the goals and objectives that you have. But in fairness to you, there is quite a lot of conservative criticism, and I will be specific to tell you.

I have been at hearings in New Hampshire, Louisiana, and Texas this year, and I have heard all three of the organizations receive some very strong negative criticism.

Mr. Davis, you point out that in some places, wetlands has become a household word. That is true, and it has gotten to be a very negative household word in recent months, since the first of January. In these three States, I have heard that.

I have another thing that does not have anything to do with wetlands today, but they talked to me about this sort of thing. There is a real feeling that your groups, even the conservation groups, the environmental groups, are taking land, and I have seen a growing resentment. If you do not find a program or a way to include these people, include our States, in addressing wetlands, we are going to get a terrific whiplash from this effort.

You will see the homeowners and the landowners and farmers and people like that feeling concerned about the wetlands, and the concern is—I grew up in a area, my town where I was raised had two rivers that bordered it. We have got swampland and alligators out there, and for a youngster growing up—people in these areas have feelings about what wetlands are, and then they are told out here on the prairie where they get marshes when it rains, that that is wetlands.

And then you go to a public hearing and people from El Paso get up and tell us that the banks of the cliffs—the Fish and Wildlife people have told them that that is wetlands, and the only thing out there is cacti.

So there seems to be a real problem in the communities that you do not have your act together on what is wetlands. And then when it gets to be the Nation, the EPA and the Corps of Engineers will not even talk to each other.

Specifically, I heard this complaint over this road that they are trying to build, and they cannot even get a decision on the adjacent property.

I just wonder—and the only question that I have, and I will ask it in this hearing—do you have a feeling that the mitigation procedures that you have in place are working, and what needs to be done to improve them?

Mr. Davis. Let me take a shot at that, sir.

I think the new mitigation memorandum of agreement is less than a month old. A large part of the reason for creating that was to get our two agencies together so that we could work on the kind of problem that you cite, where EPA and the Corps cannot decide what mitigation is. The lack of a consistent national policy endorsed by both agencies has been a large reason for that problem that has existed for years and years.

We are hoping that that memorandum is going to make that problem, if not go away, then get a whole lot better. It will not—because it is not designed to—deal with some of the other problems, but I think that our mitigation practices are going to get more consistent and more predictable. They may not still meet everyone's approval in the sense that people who are project proponents may still be unhappy because they may feel that they should not have to mitigate at all. But at least we will not have the bickering between the agencies. That is our goal.

Mr. Barrows. I agree with that statement, and your comments are very accurate. We hear the same kind of thing. The program has always been very contentious, and it has become increasingly more contentious in recent years because more people have begun to understand the impacts of the program to their property, and more people are learning now—even if they did not have wetlands before—they are finally recognizing that there is a permit requirement, and the users of those wetlands find that both from an environmental standpoint and from a development standpoint there just are not that many sites left available.

It is a tough, tough program. We have tried to improve the way we manage the program, improve the predictability through a number of the interagency agreements that we worked out. Most of those have only been out for a year—the mitigation only for a month.

Mr. Leape. There is no question that there is often expressed public concern about the burdens that the regulatory program, in particular, imposes on landowners. I think it is important to recognize that at least from where we stand, there seems to be also more public concern now for the conservation of wetlands than there has been in the past.

I do not want to pretend that that makes the problem go away. At the risk of saying for the fifth or sixth time one of my principal themes in this hearing—I think that part of the answer to that is in the Forum's recommendation—complimenting our reliance on the regulatory program with other strategies that impose fewer burdens on landowners, whether they are strategies to provide incentives for stewardship, or public programs for wetlands.

Those kinds of nonregulatory strategies, combined with measures to streamline the regulatory programs, reduce the unnecessary burdens that they impose. I think that what the Forum says is at least part of the answer.

Mr. **Lightfoot**. Addressing the commonsense approach, we are going to have a very difficult time implementing a good program.

Thank you very much, and I will submit my questions later.

Mr. **Nowak**. Thank you very much, Mr. Lightfoot.

We will now turn to Mr. DeFazio from the State of Oregon.

Mr. **DeFazio**. Thank you, Mr. Chairman.

Mr. **Nowak**. Which is not the rice capital of the world.

Mr. **DeFazio**. Cranberries, but not rice.

A question about the MOA, the exceptions made in the MOA for areas where there is a predominance of a particular wetland type—I would just like someone to briefly—I do not know how you would determine what areas have predominance that are along the line of regional permits?

Mr. **Barrows**. I know that there have been a lot of folks referring to a particular section of the MOA as creating some exceptions, and that was not our intent. Maybe we have got some education that we have to do first.

But I do not think so. Most of them clearly understand. It is not an exception. It was a recognition that areas that have vast amounts of wetlands—you may have difficulty, for example, with compensatory mitigation. And in that footnote where we discussed that, in one sentence we described the situation where things may not be practical, and then in the following sentence, in an area where there are high amounts of wetlands, it may be practical.

It was a point of clarification.

Mr. **DeFazio**. Well, here is a situation—you take a State—this is parochial, but it would apply elsewhere—such as Oregon, where we have zoned every acre of land in the State. We have gone far beyond private land in zoning what we consider to be prime wetland, because it is a natural resource. We are not taking issue—that person has a right to enjoy watching birds—there are a few marginal uses that they can have of it. But they can never develop that land, or impact it significantly.

But we have to also accommodate growth somewhere, so we determine, yes, we will accommodate growth on what appears to be at this point marginal farmland, being used for growing grass, wet, lousy soil, it does not have a very good capability for higher value crops.

Now, we thought we had taken care of the problem. Now we find that the marginal farmland used to be, historically, some time ago, marginal wetland or wetland grass prairie, and now if we want to change the use from marginal farmland to a more intense use, there is a problem, and the problem therefore gets down to how does one mitigate for what used to be a low value wetland, which is now farmland, and we are going to turn it into a higher use? Therefore, what do you do? You have gotten out of the marginal farmland—does that mean that you should take marginal farmland out of production in addition to the marginal farmland you are taking out of production for the more intense use, you should take other marginal farmland out of production to mitigate and let it go back to a more native grass?

The mitigation becomes very confusing in this sort of a case. Is that a mitigation? How far do we go historically in terms of restoring past wetlands?

When I put this question to Mr. Reilly last year, we discussed the Pentagon or the State Department, which are on wetlands. When is the Federal Government going to compensate for those wetlands? How far back are we going to go historically on land that is already converted? Where is it that a final irrevocable use of something that has been historically converted and is no longer wetlands—then you are going to have to mitigate to that point.

This all goes back to that high value, low value thing. We are talking about somewhere where it rains a whole lot, and the whole land is wetlands, according to the soil. How do we accommodate that?

Mr. BARROWS. Well, the way we accommodate it—we did not make a memorandum of agreement between our agencies enforcing decisions. We set up a procedural framework. We learned a long time ago, you cannot run a program like the 404 program making specific permit decisions from Washington, DC. It has got to be made by our field office.

Mr. DEFAZIO. And that additionally can be a problem. We have these higher standards in the Northwest generally in terms of protecting the environment, and it is reflected in Region VI in terms of your folks, so the folks in Louisiana might say, "Heck, you don't need a permit to do that," but in Oregon, they would say, "My God, yes, you need a permit." We have a little higher standard.

Mr. BARROWS. The way the framework is set up, if it is practicable, you would require the mitigation. If it is not feasible and not practical, or if there are only inconsequential differences and impacts, which is what you may run into if you are in low value wetlands, or if there are an abundance of low value wetlands, then it is not necessary.

Mr. DEFAZIO. The land is apparently not a wetland—it is grassy, which is not a great crop. So it is not a wetland.

But it was historically a wetland. We have chosen it as low value land on which to intensify use in a very limited way.

Now, you are saying that somehow one would have to mitigate for converting something that is not wetland, but could be wetland or was wetland. I mean, that is what we are being told by the regional folks.

Mr. BARROWS. I did not intend to say that.

We regulate the land as it exists today. If it is wetlands today, if it is jurisdictional wetlands today, then you have regulatory authority over those wetlands, and then the comments that I made before make sense.

If these are not wetlands—as you say—then we do not have jurisdictional authority.

Mr. DEFAZIO. I am talking about documented fact, which is soil type as opposed to the three part rule, with water standing, plant community and this. You are just saying now, if the soil type is there, it is or could have been or might be in the future a wetland. That is the way it is being interpreted in my region.

I can provide a lengthy memorandum to the local implementing agency which I have provided the committee staff to have reviewed. They basically state what they are hearing from the regional folks out there, which is, "This is—because it was in the past and could be in the future, because of this underlying soil type—a marginal wetland, and therefore it is a wetland, therefore if you convert it to use, you have to mitigate."

And then you get to the point of how do you mitigate? You cannot create more marginal farmland. That is why I look at that and wonder if there is something loose in there.

In Oregon, we sure as heck aren't filling in our good wetlands. That is not the point. The point is, through a rational planning process, we have decided this is the lowest value land on which to expand, and it is the most logical expansion. But that is maybe not where you are going.

Mr. BARROWS. Well, the problems which you described are certainly common to the program, and one of the things that we have tried to cure, and I believe over time we will cure, is the inconsistency in wetland methodology, of delineating wetlands, and methods that are used.

We have used a three parameter approach for a number of years, but our districts have used it to varying degrees. With the new wetlands manual as of last March it is now mandatory, so it is quite conceivable that they were using a procedure somewhat different than was used in the past. They now are required to use a procedure that was developed as part of an interagency agreement.

It is a procedure which is consistent with the way that we have done things in the past, and consistent with the way we have done things in a lot of our districts. But the reason we needed to go to that point was because obviously we had got caught in that conflict.

Mr. DEFAZIO. It is really more soil type—you do not have to have the water and you don't have to have the plants, but you have the soil type there.

Mr. BARROWS. The wetlands delineation manual does require positive tests for the three parameters, except in some problem areas, and we have devoted a whole chapter to that.

Where the vegetation has been cleared away and you cannot make a determination—it typically would be there.

Mr. DEFAZIO. In the whole valley of Oregon, that is the problem. So my question is, how far does one go back, historically, or is it the underlying soil?

Obviously we will have to have some more testimony. But I think there is a real key here, and we are getting something out of my theory that really the key is the tiered approach of looking at high value and low value.

I think that we should be prioritizing the preservation and restoration and mitigation on the high value lands, obviously. You cannot—we do not have the comprehensive way to do everything, everywhere, plus you get into the private land problem.

But looking particularly and keying our efforts into those high value wetlands and the efforts of the agencies there—I think it really is where you are going to see success or not success.

There is stuff that cannot be mitigated no matter what you may try. You just can't mitigate it—it is too complicated for us to figure that out.

There is a priority, too. When you get so far down to saying that something could have been in the past, or was historically, or could be in the future, if you did not farm it anymore, a marginal wetland—there has to be something done.

I thank you for your attention. It has been a long hearing. Thank you, Mr. Chairman.

Mr. **Nowak**. Thank you very much.

I think that concludes all the members who had the opportunity to appear.

I want to thank our witnesses and just make a couple of concluding comments.

We will have the opportunity to listen to some more of the specific interests tomorrow and later to the agriculture and other private party interests in this area, as well as some developmental interests, and from the States of Alaska and Maryland, who have had some problems with this, and also four or five Members of Congress who wanted to testify on this subject.

I just urge our panel today, who hopefully we will be working with as we pursue a consensus on this legislation, to at least have someone here to hear and review this testimony so that we can perhaps bring a better focus to their testimony through questions we may have relating to what they raise, or to you directly instead of having to answer tomorrow. Perhaps we could develop that at a later date.

I would like to, in some instances, make that part of—perhaps it is a little novel, but unique—part of the hearing record. So if you could do that, or have somebody from your staff do that, we would appreciate that.

We will continue the hearings March 13. We will have another hearing on this subject, but tomorrow, as I say, we will have those interests that probably you have heard to some degree from the members on this committee as they have been talked to by various interests within their Congressional districts.

Again, let me thank you for coming. I hope that people realize the scope and the broadness of this initial hearing.

One other factor that was mentioned—again, from the questions, you can see how 404 has become the linchpin to a successful program. If that were solved, you would reserve perhaps one-half percent of the wetlands in the United States, and the other 99.5 percent we would not have to worry about, at least as expressed.

Hopefully we can concentrate on that other 75 or 80 percent that is out there in private hands, and give your recommendations in the forum some exposure to the Governors.

If we do not have a joinder on this issue, I am afraid we are going to revise and have the greatest 404 program and lose 500,000 acres in the foreseeable future.

Again, thank you for your attendance, and we look forward to working with you.

The committee stands in recess.

[Whereupon, at 12:50 a.m., the subcommittee was adjourned, to reconvene at the call of the Chair.]

[The prepared statements of Messrs. Barrows, Davis, and Leape follow:]

DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY OF THE ARMY
(CIVIL WORKS)
COMPLETE STATEMENT OF
DAVID B. BARROWS
BEFORE THE
WATER RESOURCES SUBCOMMITTEE
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION

February 27, 1990

Mr. Chairman and members of the Subcommittee, I am David B. Barrows, Assistant for Regulatory Programs, Office of the Assistant Secretary of the Army (Civil Works).

I am pleased to be here this morning on behalf of the Secretary of the Army to discuss the wetlands activities of the Army Corps of Engineers. As you requested in your letter of invitation, I will address the legislative recommendations of the National Wetlands Policy Forum (NWPF), the recent activities in the Corps regulatory program, including recent agreements with the Environmental Protection Agency (EPA), and the Corps planning and construction activities as they relate to wetlands.

Protecting and wisely managing our Nation's remaining wetlands continues to be in the forefront of the Nation's environmental conscience. President Bush has stated that his Administration will adopt a national goal of no net loss of these valuable aquatic resources. We wholeheartedly support the President's initiative to strengthen existing Federal programs and regulations that protect, maintain, and restore wetlands.

Wetlands and the other aquatic resources of this Nation are critically important to water quality and provide a vital base for many of our commercial and sport fisheries, wildlife populations, recreational, cultural, and aesthetic amenities. Wetlands serve a valuable role in storing flood waters, recharging groundwater, and providing other beneficial hydrologic functions. The recognition of the importance of wetlands is not new to the Corps. A list of wetlands values and a policy discouraging unnecessary alterations of wetlands first appeared in our regulations in May of 1973. However, permit decisions dating back to the early 1960's reflected a growing concern for wetlands.

Most of us here today feel strongly that something must be done to both minimize and to turn back the clock on wetland losses. Choosing between wetlands preservation and allowing a farmer to drain cropland or to allow a community to construct a flood control levee to protect property or a water supply reservoir are not easy choices. We fully recognize that implicit in any wetlands goal is the need to strike a proper balance among the many competing interests for the use and protection of these important resources. It is often very difficult to make a choice between wetlands and other essential public interest factors such as property rights, energy, agriculture, and transportation.

The President's Wetlands Task Force is examining how best to implement the goal of no-net-loss of wetlands. At a minimum, the task force is expected to make recommendations for revising the Wetlands Executive Order 11990, which directs Federal agencies to minimize losses resulting from Federal actions.

The task force has undertaken background studies and briefings on how best to implement the no-net-loss goal and will hold a series of meetings around the country to solicit public comment on what should be an appropriate strategy for achieving the President's goal. Information gained through this process will be of major importance in determining the appropriate mix of regulatory and nonregulatory recommendations to the President. The task force is focusing on a number of key factors, including wetlands losses related to agriculture, losses in Louisiana and Mississippi, as well as the unique nature of Alaskan wetlands.

While the task force is not in a position to make recommendations at this time, the task force is considering a comprehensive mix of policy recommendations and should be ready to offer these recommendations by the end of the year. The task force has met with and reviewed the recommendations of the National Wetlands Policy Forum, and their recommendations will be given due consideration in the development of the President's goal of no-net-loss of wetlands.

Recommendations: NWPF on Federal Wetlands Legislation

The Department of the Army generally supports many of the conclusions and proposals of the National Wetlands Policy Forum. We believe that the majority of the Forum's recommendations are being or can be reasonably implemented, and we are prepared to take a leadership role in that regard.

We believe that many of the general concepts on the Forum's recommendations are within our existing authorities and support the President's goal of no net loss of wetlands, including:

- The establishment of a national wetlands protection and management goal;
- The establishment of a uniform definition of wetlands which is already underway with the adoption of the Federal wetlands delineation manual;
- Expanding and strengthening Federal regulatory program to make it more effective while reducing costs, delays, and uncertainty, provided appropriate resources are available;
- Encouraging delegation of federal regulatory responsibilities to states that demonstrate adequate legal authority and capability to achieve the goal of no net loss of wetlands;
- Providing technical assistance to states;
- Supporting controls over Federal investments that would degrade wetlands;
- Undertaking research on such topics as evaluating wetlands functions and values; developing regional assessment methodologies; assessing cumulative impacts; evaluating the effectiveness of protection programs; and restoring and creating wetlands.

- Establishing a permit fee system; and

- Establishing a program to restore and create wetlands.

The Army also supports studies and reporting requirements, as well as a strong program of public education. We believe public education is vital, if the Nation is to develop an ethic to protect, conserve and manage our wetlands ecosystems. In addition, the Corps has a strong interest in continuing its 15 year ongoing wetlands research and development program.

There are two recommendations that cause concern for the Corps. The first is the recommendation to have the states assume the entire regulatory program. The Corps recognizes that encouraging States to assume Section 404 permitting responsibilities and reducing the duplication involved in operating both State and Federal permitting programs are important. However, any changes in the current assumption process should reflect the Corps continuing and legitimate interests in protecting interstate commerce and interstate aquatic resources. Effective procedures for coordinating review of permits with interstate, national defense or navigational servitude implications should be mandated. The second recommendation which causes concern is the requirement for all Federal activities to be consistent with state wetlands conservation plans. Federal requirements and state plans should be consistent to the maximum extent practicable. However, our concern here is that consistency requirements should not interfere with the Federal government's ability to protect interests such as defense, navigation and interstate aquatic resources. As under the Coastal Zone Management Act, procedures to preclude such interference are crucial.

Finally, we agree that many of the Forum's recommendations are critically linked and support one another; however, we recognize that it is possible to take a series of steps toward the goal of protecting our Nation's wetlands today. Many of these steps are already underway at Army and the other Federal agencies. The Army is fully committed to protecting, restoring and maintaining wetlands through our existing authorities and our regulatory program.

In keeping with the President's goal on no-net-loss of wetlands and the establishment of the Administration's inter-agency Wetlands Task Force, the FY 91 Budget proposes major increases for the Army Corps of Engineers for research, mitigation and restoration, protection, conservation, and regulation of the Nation's wetlands resources. Many of the FY 91 Budget proposals are discussed in detail later in my testimony.

Regulatory Program

As we have previously testified, the single most talked about wetlands program of the Corps of Engineers is its regulatory program. The Corps regulatory program has become a very important factor in the conservation of the remaining 290 million acres (OTA, 1984) of our Nation's coastal and interior wetlands. However, most wetlands losses result from activities not regulated by the 404 program. Wetlands can be destroyed or degraded by draining, clearing, mowing or shading, and these activities are beyond the reach of the 404 program unless they result in the discharge of dredged or fill material. By far, most wetlands losses result from clearing and draining.

The Corps of Engineers has been regulating activities in the Nation's waters since 1890. Until the 1960's, the primary purpose of the Corps regulatory program was to protect navigation. Since that time, the program has been broadened by Administration initiatives, legislation, and court decisions so that it now includes a full range of public interest factors for both the protection and utilization of the Nation's waters.

The Corps regulatory authorities affecting wetlands include:

- Section 10 of the Rivers and Harbors Act of 1899, which prohibits the obstruction or alteration of navigable waters of the United States without a permit from the Corps of Engineers; and

- Section 404 of the Federal Water Pollution Control Act, which prohibits the discharge of dredged or fill material into waters of the United States without a permit from the Corps of Engineers.

Typically, 40 percent of the permit applications submitted to the

Corps each year require approval only under Section 10; 30 percent involve both Section 10 and Section 404; and 30 percent involve only Section 404.

The Corps received about 15,300 standard or individual permit applications in FY 89. Individual applications are evaluated in a public interest balancing process; that is, the anticipated benefits of the proposed project are balanced against the reasonably foreseeable detrimental impacts. In addition to this public interest review, Section 404 applications are evaluated to ensure compliance with the Section 404(b)(1) Guidelines which are substantive environmental criteria. The Guidelines were published by EPA in 1980 and have remained unchanged since that time. The Guidelines require the selection of practicable alternatives and mitigation. Corps permits are issued only when the proposed project complies with the 404(b)(1) Guidelines and, on balance, is not contrary to the public interest. The District Engineer's decision to issue or deny a permit normally represents final agency action.

Individual permits are not always required. For example, last year 50,000 projects were covered under either a nationwide, state or regional general permit. The primary purpose for the use of the general permit is to avoid unnecessary delay and duplication of effort where individual and cumulative impacts are minimal.

Mitigation MOA

The final EPA/Army MOA, which was signed on February 6, 1990, provides general guidance on the mitigation requirements of the Section 404(b)(1) Guidelines. The MOA was originally signed in November of 1989, and was to have taken effect on December 15, 1989. However, EPA and Army agreed to a delay in implementing the MOA to allow an opportunity for further discussions with other Federal agencies and the Domestic Policy Council (DPC) Wetlands Task Force. As a result of these discussions, some changes were made to clarify the purpose of the MOA and its relationship to the Guidelines. The MOA was implemented on February 7, 1990. Our expectations regarding a more effective Section 404 regulatory program have not changed with the most recent signing, and we do not believe that implementation will be affected by any of the changes. The Army is committed to implementing the Section 404 program in a manner consistent with the objectives of the Clean Water Act. The MOA reflects this commitment.

In order to understand the issues concerning this MOA, it is important to know that the Council on Environmental Quality (CEQ) has defined mitigation in its regulations at 40 CFR 1508.20 to include:

- Avoiding impacts by not taking an action or parts of an action;
- Minimizing impacts by limiting the degree of the action;
- Rectifying impacts by repairing, rehabilitating or restoring the affected environment;
- Reducing impacts over time through preservation or maintenance of the affected environment; and
- Compensating for impacts by replacing or providing substitute resources.

The types of mitigation enumerated by CEQ are compatible with the requirements of the Section 404(b)(1) Guidelines; however, as a practical matter, they can be combined to form three general types: avoidance, minimization and compensatory mitigation. The MOA speaks in terms of these more general types of mitigation.

The purpose of the MOA is to articulate and clarify the procedures that Corps District Engineers use to determine the type and level of mitigation necessary to demonstrate compliance with the Guidelines. EPA also will use the MOA in developing its positions on compliance with the Guidelines when commenting on standard permit applications. The MOA is a clarification of existing regulations and was developed in response to questions that have arisen from Corps and EPA field offices, the Congress, and members of both the development and environmental community. The MOA does not contain requirements beyond those currently allowed in regulation, nor does it establish new basis for denying Section 404 permits.

Key points in the MOA include:

- The MOA applies to standard individual permits only.

This does not include letters of permission, regional permits, nationwide permits, or programmatic permits;

- The MOA is applicable to all waters of the United States, including most wetlands;

- The MOA articulates that no overall net loss of wetlands functions and values is a goal of the Corps regulatory program. In this regard, the MOA sets forth a goal of one for one functional replacement of wetlands values. In the absence of information on functions and values, a one for one wetlands acreage will be considered. However, the MOA preserves flexibility in the permit process by recognizing that "no net loss of wetlands functions and values may not be achieved in each and every permit action;"

- The MOA recognizes that wetlands differ in terms of functions and values and that the amount of mitigation required will vary. In this regard, the ratio of the required mitigation may be greater where functional values of the area are demonstrably high and the replacement wetlands are of lower functional value or the likelihood of success of the mitigation project is low. Conversely, the ratio may be less for areas where the functional values associated with the area being impacted are demonstrably low and the likelihood of success associated with the mitigation proposal is high;

- The MOA provides general guidance that mitigation will be considered in the sequence of (1) avoiding impacts by selecting the least damaging practicable alternative, (2) minimizing impacts and (3) compensating for any remaining unavoidable impacts to the extent practicable;

- Mitigation required to satisfy any of the steps in the sequence noted above must be appropriate to the scope and degree of impacts and practicable. The term practicable, as defined in the 404(b)(1) Guidelines, means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes;

- The MOA recognizes that compensatory mitigation may not be used as a means of reducing environment impacts during the selection of the least damaging practicable alternative;
- Only in exceptional circumstances will the preservation of existing wetlands be considered an acceptable form of compensatory mitigation; and
- The MOA specifies that permit compliance monitoring is an important aspect of mitigation.

While some have expressed concerns that the issuance of the MOA may be premature in light of the President's DPC wetlands task force initiative, we believe that the MOA guidance is consistent with existing regulations and the objectives of the Clean Water Act to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters". In fact, development of the MOA started in 1985, in part as a result of Congressional interest.

During the July 1985 Senate Environment and Public Works Committee's Section 404 Oversight Hearings, Senator Chafee expressed an interest in a joint mitigation policy under the 404(b)(1) Guidelines. In its 1986 regulations, the Corps notified the public of ongoing efforts to develop additional guidance on implementing mitigation requirements of the Guidelines (33 CFR 320.4 (r), footnote 1.) In addition, development of the MOA has been acknowledged in previous congressional testimony and public presentations.

It is important to note that the MOA is not, in and of itself, a no net loss policy. Furthermore, neither the Section 404 program in general, nor the MOA in particular is designed to achieve in and of itself the national goal of no net loss of wetlands. The Corps will strive to achieve the President's national goal of no net loss of the Nation's remaining wetlands. However, the MOA clearly recognizes that within the context of the 404 program, only mitigation which is appropriate or practicable will be required.

In the preparation of the MOA, EPA and the Corps recognized the need to retain the flexibility afforded by the Guidelines which allow us to respond appropriately to regional variations and circumstances that exist across the country.

We expect that the primary impact of the MOA will be on the Corps and EPA, as they must ensure that their comments and actions are consistent with the 404(b)(1) Guidelines. In addition, while some regional changes in mitigation practices by some Corps and EPA field offices are anticipated, these changes will not exceed the reasonable limits of interpretation allowed in existing Corps and EPA regulations. We will closely monitor implementation of the MOA nationwide in order to make necessary revisions or to prepare supplementary guidance as experience may dictate. We further recognize that revisions or supplementary guidance may ultimately be appropriate to reflect directions or conclusions regarding no net loss of wetlands as provided by the DPC Wetlands Task Force.

We would like to emphasize our commitment to not only the mitigation MOA, but to the Corps regulatory program in general. The Corps has a long history as an "honest broker" in administering its regulatory programs.

Section 404 (q) Elevations

This past year two important cases were elevated to the Headquarters of the Corps of Engineers (HQUSACE) in order to resolve national policy issues. The policy issues centered on the practicable alternatives and mitigation provisions of the 404(b)(1) Guidelines. The decisions made by the Corps' Director of Civil Works in these two cases have been distributed to all of the Corps Districts for their use and guidance.

The first case elevated was the application by Plantation Landing Resort, Inc., to fill a tidal marsh and shallow bay bottom in Louisiana in order to construct a resort complex integrated with a contiguous marina. For purposes of the Section 404(b)(1) Guidelines analysis, the District accepted the applicant's preferred characterization of the "project purpose" as a "fully integrated, waterfront, contiguous, water-oriented recreational complex". In large measure, the District's acceptance of the applicant's view of its "project purpose" led the District to conclude that all parts of the project were "water dependent"; that there was no practicable alternative to the applicant's proposal; and that the application therefore complied with the 404(b)(1) Guidelines. Assistant Secretary Page elevated this case to HQUSACE for review.

We will furnish a copy of the HQUSACE decision document on the Plantation Landing case for the record which provides guidance on several issues important to the regulatory program. Some of the salient points in the Plantation case are:

- o The Corps, and not the applicant, will ultimately define each permit application's "project purpose" in terms of the 404(b)(1) Guidelines alternatives analysis; and

- o The 404(b)(1) Guidelines alternatives test, including the water dependency test, relies upon the concept of a basic project purpose. Consequently, the Corps Districts must not define an application's project purpose in a narrow or applicant-directed manner, which can virtually assure that no practicable alternative could exist.

The second case elevated was the Hartz Mountain Development Corporation application to construct a large housing complex on a marsh in New Jersey. Again, this case, which involved "project purpose" and compensatory mitigation issues, was elevated to HQUSACE. A copy of the HQUSACE guidance is provided for the record. The HQUSACE guidance to all Corps Districts affirmed the following key points:

- o Assessment of the functions and values of the existing aquatic ecosystem is a prerequisite to determining compliance with the Guidelines. Such an assessment is also necessary for the development of appropriate and practicable compensatory mitigation, if a permit is to be granted; and

- o Mitigation under the 404(b)(1) Guidelines should be applied in the logical sequence of first avoiding impacts by selecting the least damaging practicable alternative, minimizing impacts, and finally compensating for unavoidable impacts to the extent appropriate and practicable.

Joint Wetlands Delineation Manual

The first success story in 1989, that we reported to this Committee last April and the one that set the stage for two other agreements is the development of the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands*. Four federal agencies are primarily involved in delineating wetlands: the Army Corps of Engineers for its regulatory program and its civil works construction, operation, and maintenance programs; EPA for the Section 404 and Section 402 programs; the Soil Conservation Service (SCS) for its Swampbuster program (Food Security Act of 1985), and the Fish and Wildlife Service (FWS) for its inventory and acquisition programs.

The Army and the EPA began using the new manual in the Section 404 program on March 20, 1989. For the first time all Corps Districts were required to use the mandatory criteria set forth in the joint manual. Although some Districts found that the new manual increased the area of wetlands jurisdiction, this increase was generally because these Districts had not previously used the three parameter approach recommended in the earlier Corps wetlands delineation manual.

During the summer of 1989, the Corps organized and conducted ten two-day wetlands delineation training sessions around the Nation to train our field personnel in the use of the new manual. We were able to conduct this training as a result of an FY 89 supplemental appropriation. The training has helped provide consistency in the use of the new wetlands manual.

Last week the Corps, EPA, SCS, and FWS finished work on the development of an interagency wetlands delineation training program. We are jointly sponsoring six five-day training sessions which will start this Spring. We believe that joint training will facilitate cooperation between agencies and further reduce conflict over the wetlands programs of our respective agencies. All of the sessions are already filled to capacity, and a total of 240 personnel from the four agencies will be trained.

The Corps' Waterway Experiment Station is developing a training video on the new wetlands delineation manual. We anticipate that the video will be widely shown throughout the Nation to both government and private sector personnel.

The four agencies will meet again this summer to perform a technical review of the manual and to provide any technical guidance that may be appropriate.

Finally, the new delineation manual represents a major step forward in the management of the 404 program. It clearly has reduced duplication for the public. As the public and the government agencies become familiar with the new joint manual, much of the early concern regarding the manual has subsided. We will continue to work with the public and the agencies to address outstanding concerns.

404 Jurisdictional Boundaries MOA

The second agreement between Army and EPA occurred on January 19, 1989, when we signed an MOA on the determination of geographic jurisdiction and Section 404(f) exemptions. The MOA provides that the Corps will make day to day jurisdictional and exemption determinations based on EPA guidance and oversight, unless EPA designates in advance a special case where it will make the determination.

This new MOA addresses many of the difficulties experienced under the previous agreement that expired several years ago. Both of the agencies and the public now have a better indication of how EPA and the Corps share responsibilities. This new MOA eliminates most of the overlap and duplication inherent under the old agreement, and has proven effective.

Enforcement Activities

The third agreement with EPA is in the area of enforcement. Strong enforcement is absolutely essential to any successful regulatory program. Enforcement under Section 404 of the Clean Water Act is divided between the Corps and EPA. EPA has explicit statutory enforcement authority to deal with unauthorized discharges of dredged or fill material, while the Corps has similar enforcement authority for violations of permit conditions. The 1987 Amendment to the Clean Water Act gave administrative civil penalty authority to EPA for unpermitted discharges and to the Army for violations of permit conditions.

We signed the Enforcement MOA on January 19, 1989, and implemented it on March 20, 1989. Besides reducing duplication and overlap, the MOA established a framework for a more effective enforcement program. The coordination process established by the MOA provided EPA good cases for successfully pursuing administrative civil penalties. News of that, in turn, has supported the Corps in obtaining voluntary compliance through restoration and after-the-fact permitting. As public awareness of our coordinated enforcement program increases, we expect a reduction in the occurrence of unauthorized activities in wetlands.

In addition to the MOA, we developed regulations to implement the civil penalty provisions of the Water Quality Act of 1987. The Army published a final rule for Class I Administrative Penalties on December 8, 1989, which was implemented January 8, 1990. This rule provides the proceedures whereby Corps personnel may assess penalties for non-compliance with Section 404 permits.

Wetlands Research and Development

In addition to its regulatory program and other activities, the Corps is conducting an ambitious research and development program in wetlands. The program is managed at the Waterways Experiment Station (WES) in Vicksburg, Mississippi. It evolved from work initiated under the Dredged Material Research Program. Wetlands research activities include a current program which is nearing completion, and a new research effort proposed in the President's Budget at $22 million for three years which is scheduled to begin in FY 91. WES has an ongoing Wetlands Regulatory Assistance Program (WRAP), as well.

The Wetlands Research Program has developed a technically based, three parameter (soils, plants and hydrology) manual for determining wetlands jurisdictional limits. The program has also developed a two-volume manual on the Wetland Evaluation Technique (WET) that describes methods which are for rapidly assessing the functions and values provided by wetlands. In early 1989, the Corps delineation manual was the basis for the joint agency (Corps, EPA, SCS, FWS) wetland delineation manual that now provides a fully consistent national framework for delineation of wetlands.

Application of the delineation manual and WET has led to regulatory decisions that are more consistent and technically accurate and less subject to challenge.

The new and expanded Wetlands Research Program (WRP), scheduled to begin in FY 91, will build upon existing research conducted by the Corps and other agencies, especially EPA, FWS, National Marine Fisheries Service (NMFS) and SCS. Close coordination has been stressed in the development of our the continuing research program. The principal components of the program focus on the following:

- o Wetlands restoration and development;
- o Minimization of wetlands impacts;
- o Assessment techniques for regional and cumulative changes in wetlands;
- o Wetlands stewardship and management; and
- o Application of advanced remote sensing technology to determine status and importance of wetlands on a regional basis.

The program will devote significant efforts toward useful and widely disseminated technology. Tasks and research work units will be designed and conducted in cooperation and coordination with other Federal and state agencies, the private sector and academia.

The Wetlands Regulatory Assistance Program (WRAP) is a program to provide technical assistance to our regulatory field personnel. A long-term interagency plan to address wetlands research needs is being developed through this program and will be continuously updated. Other areas receiving attention is this program are:

- o The development of a "how to" manual on creating habitats for mitigation;
- o Development of techniques for identifying high priority

wetlands;

- Refine the wetlands delineation manual when needed;
- Complete a wetlands training video; and
- Assist in expediting research on wetlands values and functions.

Stewardship at Corps Projects

The Corps manages 472 projects in forty-two states and has stewardship responsibility for 11 million acres of land and water. The Corps is supporting the President's wetlands goals on property it administers. Wetlands have traditionally been considered in project development and operation; however, now there is an even more increased sensitivity regarding the identification, protection and restoration of wetlands. Corps personnel are looking at waterfowl habitat with the FWS under an agreement, and strengthening wetlands protection in management plans, and activities.

Water Resources Development Program

We provided a broad outline of the Corps of Engineers water resources development program and activities affecting wetlands during the hearing last April before this Subcommittee. We will give you an update on progress we have made on key wetlands activities discussed last April, and provide information on several new wetland initiatives that are planned or underway.

Wetlands Program Update

We are pleased to report that significant progress has been made in the projects and activities discussed with you last April.

Upper Mississippi Management Program

For example, the Upper Mississippi Management Program is making solid progress in the planning, design, implementation, and monitoring of environmental enhancement projects selected in coordination with the FWS and the five cooperating States. These habitat rehabilitation and enhancement projects are designed to counteract the effects of backwater sedimentation. Approximately $15 million is included in the President's FY 91 budget for its continuation. As we previously testified, many of the projects and activities included under this program are designed to either protect, restore, or create wetlands. To date, four projects have been completed; four others are under construction; five projects have been approved for construction; and twenty-six have been approved for design.

Freshwater Diversions

Also, the three freshwater diversion projects in Louisiana and Mississippi are either under construction, scheduled for construction in FY 91, or are under design. For example, the Caernarvon Freshwater Diversion Structure is under construction and scheduled for completion in FY 91. The Davis Pond Freshwater Diversions Structure is scheduled for construction in FY 91. The Bonnet Carre' Freshwater Diversion Structure is under design. In addition, a new study is scheduled for Grand and White Lakes, Louisiana, to investigate the feasibility of providing freshwater diversion structures to improve fish and wildlife habitat conditions. This project is expected to benefit 980,000 acres of marshes and bays along the coast.

Louisiana Wetlands Study

In addition to the freshwater diversion projects, the Corps is involved with other Federal agencies in a study to address land loss and marsh creation on the Louisiana coast. The study is designed to determine the advisability of improvements or modification of existing improvements in the coastal area of Louisiana in the interest of preventing land loss and creating marsh. Coastal marshes are being lost to open water at a rate estimated to be thirty-five square miles per year. The reconnaissance study concluded that marsh creation utilizing material dredged from the Mississippi River channel and uncontrolled sediment diversions in the Mississippi River appears to be economically justified. A feasibility study will analyze all the alternatives in further detail.

Authorized and New Wetlands Projects And Initiatives

The President's FY 91 Budget includes approximately $57 million for over twenty new and ongoing projects and initiatives that will either directly or indirectly benefit wetlands. These projects and initiatives include a wide range of environmental mitigation and improvement features which are either currently under construction or in the planning or engineering and design stage.

Tennessee-Tombigbee Project

The first is the Tennessee-Tombigbee Waterway (Tenn-Tom) project located in Mississippi and Alabama. Section 601(a) of the Water Resources Development Act of 1986 (WRDA 86) authorized acquisition of 88,000 acres of land for mitigation of wildlife losses resulting from the construction and operation of the Tenn-Tom project. There have been ongoing studies since enactment of WRDA 86, and the FY 91 budget includes $20 million to begin acquiring the mitigation lands. Much of the land to be acquired consists of bottomland hardwood forests and other associated wetlands ecosystems.

Missouri River

Section 601(a) of WRDA 86 also authorized a $51.9 million fish and wildlife mitigation project for the Missouri River. FY 90 and FY 91 funds will be used to accomplish preconstruction engineering and design, at a cost of $725,000. All of the mitigation will occur near or adjacent to the river in the states of Iowa, Nebraska, Kansas, and Missouri. Many of the proposed measures will create or restore shallow water, wetlands, and riparian habitat.

Upper Yazoo

Some of the remaining elements of the Upper Yazoo project in Mississippi have been controversial and have caused considerable delays in construction during the past four years. Both land owners and environmental groups have expressed strong opposition to the project. The environmental groups' primary concerns were associated with the loss of wetlands, particularly bottomland hardwood forests in the Upper Yazoo area. Based on these and other concerns, the Corps has chosen to undertake a reformulation study of the remaining unconstructed features of the Yazoo Basin project. Funds are provided in FY 91 to continue this study. The study will be completed in several phases, and interim reports will be prepared beginning in FY 92.

Section 1135 Projects

Section 1135 of WRDA 86 authorized the Secretary of the Army to review the operation of existing water resources projects to determine the need for modifications in the structure and operations of the projects for the purpose of improving the quality of the environment. Section 1135 also authorized the Secretary to carry out a demonstration program. In FY 87 the Corps began carrying out a number of surveys to identify candidate projects for inclusion in the program. $5 million is included in the FY 91 budget for the program. Although specific projects to be funded in FY 91 have not been determined as of yet, the final selections will undoubtedly include a number of wetlands improvement initiatives.

Section 906 of WRDA 86

Section 906 of WRDA 86 not only provides important mitigation authorities, but also establishes a number of requirements in the area of fish and wildlife mitigation. For example, section 906(d) requires that reports submitted to Congress include a mitigation plan, unless it has been determined that adverse impacts will be negligible. This section also requires that all impacts to bottomland hardwood forests be mitigated in-kind, to the extent possible. We are pleased to report that we are finding Corps reports reaching our office to be in full compliance with Section 906(d). Since Corps projects necessarily involve floodplains, mitigation of unavoidable losses is often associated with the preservation, conservation, restoration, and creation of wetland environments.

Fisheries Habitat Restoration and Creation

The Administrator of the National Oceanic and Atmospheric Administration (NOAA) and the Assistant Secretary Page signed a cooperative agreement in October 1985, for a pilot study to investigate the practicability of a national program for restoring and creating marine and coastal fisheries habitat. This study has been completed. Both the

NMFS and the Corps determined that the pilot study was successful and recommended the development of a new agreement for a national initiative for restoring and creating fisheries habitat in conjunction with the Corps' civil works water resources development program. The Department of the Army strongly supports such cooperative efforts, and we are looking forward to the development of a National agreement with NOAA that will build upon the successfully completed pilot study.

North American Waterfowl Management Plan

In 1989, the Department of the Interior (DOI) and the Department of the Army signed an agreement in support of the North American Waterfowl Management Plan (NAWMP), an international agreement administered by DOI. Significant progress has been made under this agreement since last April, primarily in the form of improved interagency coordination and cooperation. This agreement provides for a comprehensive look at all Corps projects and areas under study in relationship to current and potential waterfowl use. Such assessments will provide important information concerning the amount and location of wetlands on Corps properties, and will identify opportunities for restoration and development. This inventory of wetlands on Corps projects will be responsive to Section 9 of the North American Wetlands Conservation Act, which directs Federal land management agencies to cooperate with the Director of the FWS to restore, protect, and enhance wetlands within the lands and waters of each agency. It also would be consistent with several of the recommendations of the National Wetlands Policy Forum.

Wetlands Restoration and Creation Training

It is well recognized that wetlands restoration and creation must play an important role in meeting a goal of no net loss of wetlands. The Corps has been and continues to be a leader in researching, developing, and applying this technology to its water resources development program and activities. We also believe we are in the forefront of wetlands training. During the past twelve years the Corps has provided formal, hands-on wetlands restoration and creation training to Corps and other agencies' personnel. The demand for such training is very high and increasing. We are currently looking into the possibility of making this training program an interagency-sponsored and conducted course.

There is considerable disagreement within the scientific community, inside and outside of the Federal government, concerning man's ability to build viable, functioning wetlands. Some wetlands are relatively easy to restore and create. However, there are certain wetlands types that are much more difficult to restore or create, and still others are beyond our current abilities to either restore or create. As we discussed earlier, our research program includes studies to help answer these question and develop solutions to this problem. These findings will be incorporated into our training course as quickly as new information becomes available.

There are two activities planned which I believe will help by identifying the current state of the science of wetlands restoration and creation, and the role technology can play in this endeavor.

Wetlands Workshop

The first is a National Wetland Protection/Management Workshop scheduled to be held in Jackson, Mississippi, this April. This workshop will be conducted by the Association of State Wetlands and will focus on the role of wetlands restoration and creation in meeting the goal of no net loss. The Corps is hosting this workshop in cooperation with eight other Federal and State agencies and private institutions.

Marine Board Study

The second is a study planned by the National Research Council, Marine Board, that will determine the past, current, and future role of engineering and science technology in marine habitat, including coastal wetlands protection and enhancement. The study is scheduled to begin this year and be completed in 1991. The Corps is one of fifteen Federal agencies funding this study. The findings from the workshop and study should provide timely and important information to aid decision-making in determining the role of wetlands restoration and creation; in addressing no net loss policy decisions; and in guiding future research and training activities.

Mr. Chairman, that concludes my statement.

STATEMENT OF
DAVID G. DAVIS, DIRECTOR
OFFICE OF WETLANDS PROTECTION
U.S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
SUBCOMMITTEE ON WATER RESOURCES
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION

February 27, 1990

Good morning Mr. Chairman and members of the Subcommittee. I am David Davis, Director of the Office of Wetlands Protection, U.S. Environmental Protection Agency (EPA). I am pleased to have this opportunity to be here today to review the recent activities of the U.S. EPA in the area of wetlands protection. As you requested, I also will address the National Wetlands Policy Forum's recommendations for Federal wetland legislation.

President Bush has expressed his determination to lead the country away from past practices that have harmed wetlands. The President stated his intent to establish as a National goal no net loss of wetlands in his 1990 Budget Statement. He restated this pledge in a press release as he toured the Everglades National Park this past January after signing the Everglades National Park Protection and Expansion Act.

Since Administrator William K. Reilly testified before you in April 1989, EPA has placed more emphasis on its wetland protection activities than at any other time in the Agency's history. Under the leadership of President Bush and

Administrator Reilly "wetlands" is becoming a household word. People across the country are learning that wetlands are not wastelands. Instead, people are beginning to appreciate wetlands not just as a breeding ground and habitat for wildlife, but also for maintenance and enhancement of water quality, flood protection, groundwater recharge and streamflow augmentation, among other values.

Yet in spite of the environmental significance of wetlands we continue to lose ground. Estimates of wetland loss are reported to be 300,000 to 450,000 acres per year in the 1983 Status and Trends Report by the U.S. Fish and Wildlife Service's National Wetlands Inventory. Judging by the explosion of requests for information and action to protect wetlands that EPA is receiving, the public has become aware of this unacceptable loss of an important natural resource. The findings and recommendations of the National Wetlands Policy Forum have certainly contributed to much of this interest and concern.

EPA Accomplishments

Mr. Chairman, let me now turn to some of the more notable accomplishments that we in EPA have made in the past year. As I review these accomplishments, I believe you will agree that the Administration is actively moving forward on enhancing the protection of wetlands.

- participation in the Domestic Policy Council's Task Force on wetlands.
- agreement and issuance of the joint Federal Manual for Identifying and Delineating Jurisdictional Wetlands by EPA, Corps of Engineers, Fish and Wildlife Service, and Soil Conservation Service.
- agreement and issuance of three Memoranda of Agreement (MOAs) with the Corps on administration of the Section 404 program: 1. MOA on Enforcement under Section 404; 2. MOA on geographic jurisdiction and 404(f) exemptions; 3. MOA on the mitigation requirements of the Section 404(b)(1) Guidelines.
- increased activity in enforcement of Section 404.
- establishment of a new grant program ($1 million for FY90) for developing State wetlands protection programs. The President's 1991 budget requests $5 million for this grant program.
- issuance of a handbook for States on the use of their Section 401 water quality certification authority for protection of wetlands.
- incorporation of wetlands protection provisions in EPA guidance on State water quality programs, including water quality standards and waterbody monitoring.
- establishment of a Federal land management coordinating group on wetlands protection to better protect the resource through exchange of information and coordinated interagency actions on Federal lands.
- completion of the first large scale pilot demonstration of EPA's cumulative impact assessment approach in the Tensas River Basin.
- co-sponsorship of two workshops (Knoxville, Tennessee and Colorado Springs, Colorado) on protecting wetlands through multiobjective river corridor management.
- proposal of regulation for assumption of the Section 404 program by qualified Indian Tribes.
- issuance of a comprehensive technical report on wetlands restoration and creation.

Now I would like to highlight a few of the activities listed above.

We are active members of the Domestic Policy Council's Task Force on Wetlands, established to recommend ways to revise and strengthen the existing executive orders on wetlands protection and floodplain management, establish no net loss of wetlands as a national goal and coordinate federal agencies in achieving it, provide clear direction to federal agencies for strengthening, implementing, and enforcing wetlands protection, maintenance and restoration, and work with the States, local governments, and the private sector in support of the goal. As was recently announced by the White House, that Task Force will be conducting public meetings around the country in the course of completing its work in 1990. We look forward to participating on a full agenda of Task Force activities in the months to come.

EPA has had underway since 1986 a wetlands research program, concentrating on three topics: (1) restoration and creation, (2) methods to evaluate cumulative effects of losses, and (3) wetland processes that improve water quality. Sufficient progress has been made in our research program that we are now testing field application of the results with our Regions. In addition, the first major product intended for the broad user community, a literature synthesis on wetlands restoration and creation, was published in October of 1989. We have also developed an intensive 1990 training program in the science of wetlands identification and delineation with the other federal agencies, and are now working on a number of other technical methods and tools. Our wetland protection efforts must be built upon a sound scientific information base.

I would also like to mention the February 6, 1990 memorandum of agreement between EPA and the Army Corps of Engineers addressing wetlands mitigation in the Section 404 Program. We reached agreement with Army on mitigation in November, 1989 after five years of discussions. Because a number of parties within and outside of the federal government wanted a clearer understanding of the implications of the agreement and to ensure its compliance with the Administrative Procedures Act, its implementation was delayed several times. In addition, a number of changes were made to the agreement before it became effective to clarify its applicability, especially in cases when a discharge is expected to result in insignificant impacts and in areas of the country where there is a high proportion of wetlands. We believe that the agreement represents a unification and verification of longstanding principles of the Section 404(b)(1) Guidelines, which provide important environmental criteria that govern permit decisions. The agreement will improve the consistency and effectiveness of field decisionmaking in the Section 404 Program. It is also very consistent with the recommendations of the Wetlands Forum, which explored the matter of mitigation in some detail. After the DPC Wetlands Task Force fulfills its charter we will reevaluate the MOA to ensure consistency between Task Force recommendations regarding no net loss and agency guidance implementing those recommendations.

In this context I want to underscore for the members of the Subcommittee the very positive relationship that exists between EPA and the Army Corps in the Section 404 Program. We have worked very closely together not only on the mitigation agreement, but in the implementation of the 1989 agreements addressing enforcement and jurisdiction, and in other aspects of the program. We have been very pleased with the response of the Army to issues we have raised through the Section 404(q) process on cases in Louisiana and New Jersey. Since Congress in the past has urged the two agencies to improve relations in the administration of the Section 404 program, I know you will welcome the news of this progress.

I would like to note, in addition, that the Administration has requested $5 million in the FY 1991 budget for the new State wetland grant program and an increase in funding for the EPA wetlands research and development program. If Congress appropriates this money, we will be able to substantially enhance the States' capacity to protect wetlands and move toward establishing State Comprehensive Wetlands Plans for some States. Additional research funding will allow EPA to complete important work on restoration and creation technology and to better understand the relationship between wetlands and water quality.

Forum Recommendations on Legislation

In addition to requesting an update on our activities, the Subcommittee has expressed interest in our views of the Federal legislative recommendations of the National Wetlands Policy Forum. The Forum, a diverse group ranging from executive officers of corporations to heads of environmental interest groups to farmers and foresters, has given us a new model for cooperation on wetlands issues. I have a great deal of respect for the work of that Forum, which in its 1988 report recommended over 100 actions for improving protection of wetlands. The Forum also issued recommendations in 1989 that provided many specifics on how these actions can be accomplished in federal legislation, a federal executive order, and State programs. The 1989 report consolidated the Federal legislative recommendations from the Forum's 1988 Final Report.

The 1988 Forum Report identified four general recommendations for legislative change as high priorities, as indicated below:

1. Establish the Forum's goal as national policy. The Forum's goal states that "the nation establish a

national wetlands protection policy to achieve no overall net loss of the nation's remaining wetlands base, as defined by acreage and function, and to restore and create wetlands, where feasible, to increase the quality and quantity of the nation's wetlands resource base".

2. Encourage delegation of Federal wetlands regulatory responsibilities to qualified States.
3. Establish such initiatives as Wetlands Preservation Trusts and an Agricultural Wetlands Reserve Program.
4. Require the President to report to Congress every five years on the nation's success in achieving the national wetlands protection goal.

I will now discuss in turn several of the Forum's specific recommendations within the context of these four broad categories.

The Goal and National Policy

The Forum made a number of recommendations for legislative changes to the Clean Water Act Section 404 program. They recommend that the Clean Water Act be amended to allow for development of more extensive general permits by the Corps of Engineers, on a regional or statewide basis, where a State has developed an approved State Wetlands Conservation Plan. They further recommend that the activities covered by Section 404 be increased to include excavation, drainage or flooding, destruction of plant life, and driving piles or placing obstructions. The Forum indicates, such increased scope could be accomplished, in many instances, without impinging on the exclusions of Section 404(f). The DPC Wetlands Task Force is reviewing the Forum's goal and recommendations in the context of formulating a detailed Presidential policy on no net loss of wetlands.

The Role of the States

A number of States have taken steps that are responsive to the recommendations of the Wetlands Forum. Some have enacted legislation and others have convened State-level "mini-Forums" to evaluate and respond to recommendations directed to the States. An important development has been the endorsement of key elements of the Forum's report by the National Governors' Association and the Association of State and Interstate Water Pollution Control Administrators.

Under the existing Section 404 program States can be delegated authority to administer a permit program for dredge and fill activities in waters other than those determined to be navigable (including adjacent wetlands) by the Corps for purposes of Section 10 of the Rivers and Harbors Act of 1899. However, to date only one State (Michigan) has sought and received delegation. Several States have studied the prospect of assuming the Section 404 program. We believe the principal reasons for other States not seeking delegation are the limited geographical reach of assumable waters and the lack of commitment to provide funding to administer the program.

There are two approaches to enhancing the States' role in wetlands protection. States' interest in assuming the Section 404 program may be increased by amending the Clean Water Act to broaden the geographical reach of the waters for which they can assume delegation. Many States are developing wetland protection programs on their own that involve regulating a broader suite of activities than just the discharge of dredged and fill material. We will consider this approach when the CWA comes up for reauthorization. States also can become more involved through joint processing of State and Federal permits and development of state program general permits where States develop Comprehensive State Wetlands Conservation Plans or otherwise demonstrate a strong State wetland regulatory program. Such a strong State regulatory program would, at a minimum, ensure full compliance with the Section 404(b)(1) Guidelines. We are discussing this approach with the Corps of Engineers and hope to enhance the States' role in protecting wetlands under the existing statutory framework.

Many of the Forum's recommendations are based on the States' developing very ambitious State Wetlands Conservation Plans. The model developed by the Forum is not only very ambitious, but may not apply to each State's particular situation. The fact that it is unlikely that all States will be able to, or should, develop a plan to include everything in the Forum's model needs to be kept in mind as legislative proposals are considered.

Preservation and Protection Initiatives

The Forum recommended that we establish methods of setting aside wetland acreage for protection. They recommended Wetlands Preservation Trusts and an Agricultural Wetlands Reserve Program. For agriculture, the Forum specifically recommended setting aside 5 million acres of existing wetlands and 2.5 million acres of cropped wetlands. The Administration has recommended that up to 2.5 million acres of wetlands be restored or protected through extension and reauthorization of the Conservation Reserve Program (CRP). We intend for the wetland initiative to be accommodated within a total CRP acreage of 40 million acres. Wetlands can presently be enrolled in the CRP and thus far over half a million acres have been enrolled. The Administration intends to continue to enroll wetlands under the CRP. Under the Land and Water Conservation Fund, the President has requested $1 billion over the next four years to acquire key land and water resources. The Administration is also committed to fulfilling the promise of the North American Waterfowl Management Plan.

The federal government owns substantial lands, including wetlands. These lands are managed under a variety of agencies and a variety of statutes. The Forum has recommended that legislation be enacted that would require the various federal agencies to inventory all of their wetlands and protect and enhance those resources. However, this can be done administratively. Such an inventory would be a useful piece of any successful effort to attain no net loss of wetlands.

Monitoring our Progress

The ability of the federal government, or for that matter any level of government, to track the losses and gains in wetlands acreage and function and value will require tracking, monitoring and reporting. The existing National Wetlands Inventory under the U.S. Fish and Wildlife Service has established itself over many years as the principal method to inventory wetlands in the U.S. The data has been used to develop the status and trends information that is widely used. More regular updates are, however, needed to more accurately track losses and gains. The Domestic Policy Council Task Force on wetlands will be considering the various ways to enhance tracking, monitoring, and reporting as one of many issues in their upcoming deliberations.

The Challenge Ahead

In order to attain our vision for the future of wetlands protection are working hard to move beyond the very polarized attitudes that have made wetlands such a difficult arena of public policy. Saving our wetland resources will require that we nurture the working relationship developed in the National Wetlands Policy Forum. The series of public meetings to be held by the DPC's Wetlands Task Force will help foster the working relationship. This is a challenging but essential task as we grapple with the realities of translating the goal of no net loss into operating programs.

Another principle underlying the Forum's blueprint for improved wetlands protection is that no one agency or even a single level of government will achieve our wetlands goals. We need to mobilize every sector of American society. The Federal government has a key leadership role that can best be exhibited by redirecting our activities that harm wetlands, by improving the management of our programs that protect wetlands, by restoring and creating wetlands to compensate for adverse effects of past federal policies, and by working in partnership with State and local governments and the private sector to ensure a cooperative approach. At the State level, we must encourage a broader willingness to assume responsibility for administering wetlands programs to remedy the spotty patchwork of programs that now exist across the U.S. Local governments must be encouraged to use their planning and land use authorities to direct development away from sensitive environmental areas.

The public sector must build a stronger partnership with the private sector for wetlands protection. This does not mean that government agencies should step back from their regulatory responsibilities, although in making those programs more effective we must give the regulated sector more predictability and streamlined decisionmaking. Rather we must also seek ways that government can work cooperatively with private entities. By providing technical assistance and financial inducements, agencies can encourage landowners to maintain a wetlands resource base that supports clean waters with healthy populations of fish and wildlife. Many in the corporate world are taking actions to assist in the protection of important environmental resources. The linking of agency actions with these private initiatives can often provide an environmental gain that exceeds the benefits from separate endeavors. Public/private joint ventures, such as the North American Waterfowl Management Plan under the auspices of the Interior Department, are an excellent way to pool talents and resources for the benefit of wetlands.

We also look to environmental interest groups to provide information as we move our programs forward, and we encourage their members across the country to take a leading role in initiatives to protect wetlands, especially at the local level. And, very importantly, we must engage the American public in the work of wetlands protection. We can make great progress if more of our citizens understand the importance of wetlands to the quality of life in their communities, and to the health of the nation's environment. By caring for our wetlands, Americans can provide a model for the international community on how to integrate an ethic of protection for important natural resources into a highly productive economy. We can assume a leadership role as people around the world seek to better protect the environment of our planet.

To conclude, I want to emphasize the importance of concentrating our attention on wetlands over the months to come. We have the benefit of the work of the Wetlands Forum, which engaged the time and energy of a highly respected group of Americans and broke through years of policy stalemate to succeed at their mission. The DPC's Wetlands Task Force will give serious consideration to the Forum's recommendations as well as those provided by other organizations and individuals. Many have waited a long time to finally resolve the problems that beset our nation's wetlands. This may be our best opportunity for a long time to come. We have a responsibility to act. And we will because the costs of our inaction would be too high.

World Wildlife Fund
The Conservation Foundation

STATEMENT OF

JAMES P. LEAPE, VICE PRESIDENT

WORLD WILDLIFE FUND AND THE CONSERVATION FOUNDATION

Before the

Subcommittee on Water Resources,

Committee on Public Works and Transportation

United States House of Representatives

February 27, 1990

1250 Twenty-Fourth Street, NW Washington, DC 20037 USA 202/293-4800 Telex: 64505 PANDA

World Wildlife Fund is the leading private conservation organization working worldwide for the conservation of nature. WWF is active in shaping conservation policies in the United States and in the international arena, and in promoting conservation in the field -- supporting individuals and institutions in more than 100 countries. Founded in 1961, WWF now has over 800,000 members in the United States. Altogether, the WWF family of 27 national organizations has 4 million supporters around the world.

The Conservation Foundation is committed to improving the quality of the environment and to securing wise use of the earth's resources by influencing public policy. Through the work of an interdisciplinary staff, the Foundation seeks to promote conservation by undertaking rigorous analyses of environmental problems to improve public understanding, and by convening representatives of diverse interests to build consensus on controversial environmental policy issues. Since its founding in 1948, The Conservation Foundation has been an advocate characterized by reason and balance. Current Foundation activities afford high priority to wetlands conservation, pollution and toxic substances worldwide, public and private land use in the United States, and economic development in the Third World.

World Wildlife Fund and The Conservation Foundation affiliated in 1985.

STATEMENT OF
JAMES P. LEAPE, VICE PRESIDENT
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Before the
Subcommittee on Water Resources
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Mr. Chairman and Members of the Subcommittee:

I am James Leape, Vice President of World Wildlife Fund and The Conservation Foundation, affiliated nonprofit organizations which bring to the cause of international conservation 800,000 members and 40 years experience in environmental policy research, communications, and field work.

World Wildlife Fund and The Conservation Foundation have long worked for the conservation of wetlands, both in this country and abroad. Our efforts recognize the vital importance of wetlands for wildlife, fisheries, pollution control, and flood reduction.

Most recently, The Conservation Foundation convened, facilitated, and staffed the National Wetlands Policy Forum. Bringing together representatives of all the major interest groups with a stake in wetlands policy, the Forum achieved a broad and historic consensus on one of the most bitterly contested environmental issues of our time. Its recommendations present Congress a unique opportunity for bold and far-reaching reforms that promise real progress in conservation of this critical resource.

The National Wetlands Policy Forum: Process and Product

The National Wetlands Policy Forum began about three years ago, when Lee Thomas, then Administrator of the Environmental Protection Agency, asked The Conservation Foundation to initiate a dialogue on how the nation could better manage and protect its wetlands resources. The agenda of the Forum was to develop sound, broadly supported recommendations for improving federal, state, and local wetlands policy. The Conservation Foundation's role was to convene the Forum, facilitate the dialogue, and provide staff support.

Participating as members of the Forum were:

- three governors -- Thomas H. Kean of New Jersey as chairman, Carroll Campbell of South Carolina and Booth Gardner of Washington as vice-chairmen;
- the president of the Wyoming State Senate (John Turner, now director of the U.S. Fish and Wildlife Service);
- the heads of state agencies from California and Alaska;
- a town supervisor from New York;
- four high-level corporate executives -- two from real estate development companies and one each from the timber and petroleum industries;

- The CEO's of four environmental groups -- the National Audubon Society, National Wildlife Federation, Environmental Defense Fund, and The Nature Conservancy;
- three farmers -- one each from Louisiana, Illinois and the prairie pothole region of Minnesota and the Dakotas; and
- two distinguished academicians.

Lee Thomas and the assistant secretaries of the four other federal agencies involved in wetlands protection and management -- the U.S. Army Corps of Engineers, the Department of the Interior, the Department of Agriculture, and the Department of Commerce's National Oceanic and Atmospheric Administration -- participated as ex-officio members. These individuals, representing interests and organizations that have often been at odds over wetlands policy, worked together for a full year to reach consensus on a comprehensive set of recommendations. In November 1988, the Forum released its report, entitled "Protecting America's Wetlands: An Action Agenda," setting forth over 100 recommendations for action by federal, state, and local governments and the private sector.

After release of the report, members of the Forum continued to work together to develop further guidance for implementation of its recommendations. In July 1989, the Forum met and reached agreement on a concept paper for federal legislation implementing the Forum's recommendations. Copies of the concept paper have been provided to this Subcommittee, and to every member of the Congress. I ask that a copy also be included in the record of these hearings.

I urge each member of the Subcommittee to review the Forum's reports carefully. Speaking on behalf of World Wildlife Fund and The Conservation Foundation, I would like to highlight what we believe to be the principal themes in the Forum's recommendations, so that the Subcommittee can keep those themes in mind as it develops legislative initiatives to improve protection and management of the nation's wetlands. I will also suggest some specific steps the Subcommittee can take in formulating legislation.

THE FORUM'S PRINCIPAL THEMES

The Forum's reports offer important insights that should guide this Subcommittee's efforts to improve the nation's wetlands conservation programs. The Forum concluded that an effective conservation program would require clear national goals, comprehensive strategies to implement the goals, a more active role for states, and improved research and information. Equally important, the Forum emphasized that reforms must be balanced -- responding to the needs of both conservation and development interests -- so that broad support can be maintained.

The Need for a National Goal

The Forum found that national wetlands policy must be keyed to clear goals. Most environmental statutes set goals for the programs they establish -- the Clean Water Act seeks to achieve "fishable" and "swimmable" waters; the Clean Air Act seeks to achieve "healthy" air. These goals provide benchmarks against which our efforts can be assessed. Yet the fragmented programs to conserve wetlands have had no such overall objective, and they have floundered as a result.

The Forum called on Congress to establish twin national goals for conservation of the wetlands resource: in the short term, to achieve "no overall net loss," and, in the long-term, "to increase the quantity and quality of the nation's wetlands resource base." It is a seemingly modest declaration: we shall brook no further deterioration of the wetlands resource. But at a time when most experts estimate that we continue to lose 300,000 to 500,000 acres of wetlands a year, "no overall net loss" would be dramatic progress. And it is such a lofty yet urgent goal that is needed to give our wetlands conservation efforts consistency and focus.

The Need for a Comprehensive Program

The Forum emphasized that, to succeed, wetlands conservation efforts must be comprehensive. We must identify all threats to the wetlands resource, and deploy a broad array of measures to address those threats in a coherent strategy best tailored to the particular needs of an area.

Accounting for all losses: The Forum's goal of "no net loss" requires a comprehensive approach. To assure that we have reduced "net" losses to zero, and eventually to chart a net gain, we must account for all losses from whatever cause. To date, we have too often focussed solely on the most conspicuous causes of wetlands losses -- specifically, people filling them in. But our wetlands resource is diminished by losses from a much broader variety of causes -- by people draining, flooding, or clearing wetlands; by contamination from water pollution or toxics in runoff from adjacent lands; by the continued effects of past human activities (dams, levees, channelizations); and by natural losses, such as erosion and siltation. Getting to "no net loss" will require that we address all of these threats.

Bringing all tools to bear: Success will require that we bring to the cause of wetlands conservation a broader array of tools than we have heretofore deployed. To reduce losses, and offset those that cannot be avoided, we must strengthen traditional tools, and develop new ones.

Regulation will be an important part of the effort. The Forum concluded that the federal regulatory program (under Section 404 of the Clean Water Act) should be reformed to make it more effective and more efficient. Now confined to discharges of dredged or fill material, Section 404 should be expanded to require permits for activities that drain, flood, or clear wetlands. Mitigation requirements should be made more stringent, so that the regulatory program itself yields "no overall net loss," and enforcement should be more vigorous. Equally important, the Forum urged that the regulatory process be streamlined, to minimize the burden on the economy, through use of measures such as regional general permits for wetlands of low ecological value, "one-stop" mitigation determinations, and mitigation banks.

The Forum emphasized that the goal cannot be achieved through regulation alone. Stronger regulation must be accompanied by non-regulatory measures to reduce wetlands losses. The federal government can lead this effort by putting its own house in order -- through a vigorous and systematic program for the conservation of wetlands on federal public lands, and reform of federal programs that now subsidize wetlands destruction. Private landowners can be encouraged to protect wetlands through measures that reward conservation, such as tax incentives, subsidies, and creation of a tax-exempt Wetlands Preservation Trust. Such carrots are important complements to the stick of regulation.

Inevitably, some losses will continue, both from human activities and from natural causes. Achieving "no net loss" will require ambitious programs to offset these losses by restoring degraded wetlands and creating new ones. The Forum recommended a combination of public and private initiatives for restoration and creation.

To assure achievement of "no net loss," these tools must, of course, be implemented in a carefully coordinated effort -- a comprehensive strategy that combines an accounting of the expected losses with the measures that will be necessary to assure that those losses are avoided or offset. The Forum recommended that such strategies be developed by each state.

Even more important, however, is planning "on the ground." Advanced planning for individual ecosystems can identify and classify wetlands and anticipate threats. Plans can channel development away from important wetlands resources, averting conflicts between conservation and development before they become acute; plans can also identify wetlands suitable for restoration. By coordinating the myriad federal, state, and local government wetlands conservation programs, ecosystem plans can make those programs more consistent and more effective.

The Important Role for States

States have a key role in implementing "no net loss." States can, of course, assume responsibility for the regulatory program established by Section 404, and the Forum recommended that they be encouraged to do so. States, on their own and through their local governments, can promote private stewardship with a variety of tools, including property tax incentives, creation of local land trusts, and flexible zoning techniques, such as transfer of development rights, that help divert development from wetlands.

The Forum concluded that the comprehensive strategies needed to implement "no net loss" could best be developed at the state level. States and their local governments are also best positioned to undertake the advanced ecosystem planning that holds the best hope for effective conservation. Indeed, only state and local governments have the capacity to integrate wetlands conservation into comprehensive land use plans and to make regulatory, acquisition, and taxation decisions consistent with those plans.

The Need for Research and Information

The Forum's call for a more comprehensive, more systematic, and more sophisticated approach to wetlands conservation is necessarily also a call for research and better information. To set priorities and assess tradeoffs we must have better techniques for measuring wetlands functions and values. We must evaluate our efforts at wetlands protection so that we know what works and what does not. And, under a system that depends on improving some wetlands to offset the inevitable loss of others, we must develop better techniques for restoration and creation.

Improving our approaches to wetlands protection must also be based on better and more complete information -- particularly information about where wetlands exist. Maps which delineate wetlands areas provide vital information to government decision-makers and to private landowners.

The Need for Balanced Reform

To many, the Forum's recommendations seem ambitious, its consensus improbable. Certainly many Forum participants were surprised that such a diverse group was able to agree on such sweeping reforms. The consensus reflects a shared recognition of the urgent need to stem the loss of wetlands, and two years of hard work. It also reflects an appreciation of the need for balance in reform.

The Forum reached consensus on a package of recommendations. Many parties agreed to some recommendations in the package only because others were included. While all recognize that implementation will inevitably be piecemeal, it is important to the Forum that these linkages be preserved. Thus, for example, measures to streamline regulation by establishing mitigation banks and authorizing regional general permits must be linked to measures that strengthen regulation, such as requirements for full compensation for private actions and expanded monitoring and enforcement. Such linkages hold the key to the Forum's consensus.

FEDERAL LEGISLATION

We hope that these themes from the Forum's reports provide useful starting points for the Subcommittee as it considers legislative opportunities to improve our wetlands conservation programs. What can the Subcommittee do? We urge several steps:

1. Legislate a national goal of "no overall net loss." The Forum's goal of "no overall net loss" has been widely endorsed -- unanimously by the National Governors Association last year, and repeatedly by President Bush. It needs to be fixed in national policy.

2. Expand, strengthen, and streamline Section 404. Section 404 has always been politically volatile. The recent furor over the Memorandum of Agreement signed by EPA and the Corps must give pause to anyone contemplating adjustments to the federal regulatory program. But to reduce wetlands losses, we must bring a broader array of threats within the scope of regulation. The Forum's experience suggests that such an expansion may be possible if it is linked to measures that reduce the burden that the regulatory process now imposes on developers. We urge the Subcommittee to explore the prospects for such linkages as it drafts wetlands legislation. We also urge the Subcommittee to assure that, as it increases the responsibilities of the regulatory program, it increases the resources provided to that program.

3. Empower states to take a more active role. Both funding and legislative amendments are required to encourage states to take a more active role in wetlands conservation, complementary to the federal programs.

We commend the President and EPA for their request that the Budget for FY 1991 include $5 million for grants to states trying to develop more effective wetlands conservation programs. We urge the members of the Subcommittee to support that request.

We also urge the Subcommittee to encourage greater state participation in Section 404 by authorizing both broader and more flexible delegation of authority under that statute to any state that has demonstrated the authority and capability to implement the program, and that has prepared a comprehensive strategy for achieving "no net loss." Specifically, the Forum recommended two amendments. First, states should be allowed to assume jurisdiction over all wetlands within their borders, so long as they assure appropriate coordination with the Corps and EPA; current law excludes from state jurisdiction all waters subject to navigation and their adjacent wetlands. Second, states should be allowed to assume jurisdiction gradually, one piece at a time; current law requires that they assume all or nothing.

4. Establish a Federal Restoration and Creation Initiative. Again funding is the key to establishing the ambitious restoration and creation initiatives that will be required to get

to "no net loss." Congress devised a creative strategy for funding wetlands protection and enhancement in the North American Wetlands Conservation Act passed last year. We urge the Subcommittee to explore possibilities for additional funding mechanisms to support broader restoration efforts. The Forum suggested that Congress consider dedicating revenues from civil penalties collected under Section 404, and promoting public/private initiatives.

In addition to funding, this Subcommittee can help promote restoration by making it part of the mission of the Corps. The Corps has considerable expertise in wetlands restoration and creation, and the capability to carry out restoration projects on a grand scale. The Corps' new plans for restoring parts of the Everglades ecosystem, under specific legislative authority, illustrate the potential. With a more general grant of authority, the Corps could become a leader in wetlands restoration.

5. Support Federal Research and Information Programs. EPA, the Corps, Fish and Wildlife Service, and other federal agencies are already actively engaged in wetlands research. We urge the Subcommittee to support that research, and to assure that there is adequate funding for research in those areas identified by the Forum as critical to reform of wetlands conservation programs: assessment of wetlands functions and values, evaluation of wetlands conservation measures, and development of techniques for

restoration and creation. We also urge members of the Subcommittee to assure that the Fish and Wildlife Service has the funding it needs to complete the National Wetlands Inventory maps now scheduled for completion in 1998, so that both landowners and government decisionmakers are better informed about the location of wetlands resources.

CONCLUSION

It was the conviction of every member of the National Wetlands Policy Forum that our current programs for the protection and management of wetlands are inadequate on all counts -- that these programs have failed to provide adequate protection for the resource, and have also failed to respond to the legitimate needs of development. The Forum broke through the logjam that has stymied reform of these programs. The key to their consensus is a strategy that is both comprehensive and balanced. We urge the Subcommittee to move forward quickly to implement the Forum recommendations we have outlined. We hope that members of the Subcommittee, understanding the need for comprehensive and balanced measures, will put aside jurisdictional differences and work with colleagues on other committees to help translate the Forum consensus into legislation.

Thank you for the opportunity to appear before you today. I would be happy to answer any questions.

World Wildlife Fund
The Conservation Foundation

May 14, 1990

The Honorable Arlan Stangeland
Ranking Minority Member
Subcommittee on Water Resources
Committee on Public Works and Transportation
U.S. House of Representatives
Rayburn House Office Building, Room 2165
Washington, D.C. 20515

Dear Congressman:

Enclosed are responses to your follow-up questions submitted after the February 27, 1990 Water Resources Subcommittee hearing on wetlands.

We appreciate your interest in wetlands, and would welcome the opportunity to further assist you and your staff in legislative efforts to provide better management and protection for the nation's valuable wetlands resource.

Sincerely,

James P. Leape

James P. Leape
Vice-President

cc: Joseph A. Italiano, Committee Editor

1250 Twenty-Fourth Street, NW Washington, DC 20037 USA 202/293-4800 Telex: 64505 PANDA

World Wildlife Fund and The Conservation Foundation
Response to Follow-Up Questions from Representative Stangeland
Public Works and Transportation Committee
Water Resources Subcommittee
2/27/90 Hearing

- **What are the impacts of recent 404(q) elevation cases (Plantation Landing Resort, LA and Hartz Mountain, N.J.)?**

Response: These cases demonstrate the value of 404(q) for promotion of coordination and consistency between EPA and the Corps. We defer to EPA on the specifics of these cases.

- **Is there a need for more or less use of general permits? How are cumulative effects to be taken into account if we encourage more use of regional or statewide permits?**

Response: The National Wetlands Policy Forum recommended more extensive use of general permits to help increase the efficiency of the regulatory program. These permits would allow limited conversion of ecologically low value wetlands in exchange for full compensatory mitigation.

The Forum further specified that "no net loss" be achieved within the scope of each regional permit. Establishing such a goal is one way to ensure that cumulative effects are recognized and mitigated.

The Forum also emphasized that efforts to make the regulatory system more efficient, such as regional general permits, must be linked with efforts to make it more effective, such as expansion of the 404 program to cover more activities.

- **What would be the practical effect of expanding the Section 404 program to require permits for activities that drain, flood or clear wetlands? How would this affect the 404(f)(1) exemption for "normal farming"?**

Response: Expanding Section 404 to include draining, flooding, and clearing would eliminate some of the regulatory gaps in the present program. To effectively implement an expanded program, the permitting agency would need additional resources to process an increased number of permit applications, and to monitor compliance. A public education effort would also be needed to explain the new program to potential permitees.

In its recommendation to expand the 404 program, the Forum stated that it did not intend to modify the existing exemptions from permitting requirements extended to normal farming practices.

- **On page 11 of your testimony you urge the Subcommittee to expand the scope of Section 404 and to link such increased regulation with measures that reduce regulatory burdens on developers. What are some of these measures?**

Response: The Forum recognized that significant changes were needed to reduce the costs, uncertainties, and delays associated with the 404 program. The Forum suggested several changes, including increasing the resources of the permitting agencies (through permit fees and general appropriations) to help expedite permit processing, "one-stop" mitigation determinations to meet federal, state, and local requirements, and issuing of regional general permits for conversion of low value wetlands in exchange for full compensatory mitigation.

- **What, if anything, can this Committee do to protect wetlands through improvements to the Superfund program, the Coastal Zone Management Act, and the Coastal Barriers Resources Act?**

Response: The Coastal Zone Management Act (CZMA) is an ideal vehicle for improving coastal wetlands protection. The CZMA promotes the wise use of the resources of the coastal zone. The protection of coastal wetlands, which have significant economic and biological value, clearly falls within the purposes of the Act. The CZMA should be amended to require states to develop coastal wetlands protection programs to meet the "no net loss" goal. The federal government should assist states in these efforts by providing financial assistance and technical guidance.

The Coastal Barriers Resources Act (CBRA), which prohibits the expenditure of federal funds which encourage development in areas designated as coastal barriers, could be expanded to include coastal wetlands. The Forum recommended that Congress consider legislation modeled after CBRA that would restrict federal support for activities in particularly valuable wetlands including both coastal and non-coastal areas.

We do not have any proposals for using Superfund to protect wetlands.

- o **Describe the mechanics of mitigation banking. Has it been a success so far (in States that have such banks)? Isn't it a key to meeting the no net loss goal?**

Response: Mitigation banking involves restoring or creating wetlands at a central mitigation area to compensate for wetlands losses at other sites. Mitigation banks can be set up in a number of ways. Generally, a developer makes payments to the mitigation bank to accrue "credits." These credits are debited as the developer incurs wetlands losses.

Several states, including California, Oregon, Louisiana, and North Dakota, have established mitigation banks. Because mitigation banks are a relatively new mitigation tool, most have not been implemented long enough to determine their success, or lack provisions for long-term monitoring.

The U.S. Fish and Wildlife Service's evaluation of 8 wetlands mitigation banks found that one bank was successful while three showed some degree of success. Three banks were too new to make a determination, and one bank lacked sufficient monitoring data.

Clearly the first priority under a "no net loss" policy is to preserve natural wetlands. Because some wetlands losses will continue as a result of human activities and natural causes, achieving "no net loss" will require substantial restoration and creation efforts. Mitigation banks can contribute to these efforts, but they should be used cautiously. Mitigation banks are most effective in satisfying mitigation requirements for classes of activities that result in many small wetlands losses. A large mitigation bank site is often more environmentally valuable than many small sites, and is more easily monitored. Mitigation banks, however, provide only off-site mitigation, and do not guarantee that all the lost values and functions will be replaced.

- o **Is there consensus among Policy Forum members that increased State assumption of the 404 program is, by itself, a good thing? Was it agreed to only as part of a larger "package deal"?**

The Forum supported a package of recommendations. Support for individual recommendations can not be determined.

- **Would it further the goal of "no net loss of wetlands" to allow the alteration of some wetlands in exchange for enhancement or creation of wetlands as mitigation?**

The "no net loss" goal provides the flexibility to allow for some necessary wetlands losses, as long as these losses are fully mitigated.

- **Some of the perceived excesses in the existing 404 program have resulted from Corps jurisdiction over man-made wetlands such as low-lying drainage areas and irrigated farmland. Should certain man-made wetlands be exempt from the 404 program or covered by a nationwide permit?**

Response: The Forum did not specifically address this issue. To the extent that these areas are considered low-value wetlands, they may qualify for conversion under a regional general permit as recommended by the Forum.

THE STATUS OF OUR NATION'S WETLANDS AND LEGISLATION RELATED THERETO

WEDNESDAY, FEBRUARY 28, 1990

House of Representatives,
Subcommittee on Water Resources,
Committee on Public Works and Transportation,
Washington, DC.

The committee met, pursuant to recess, at 10:09 a.m. in room 2167, Rayburn House Office Building, Hon. Henry J. Nowak [chairman of the subcommittee] presiding.

Mr. Nowak. This subcommittee will come to order.

This morning the Subcommittee on Water Resources meets to continue its series of hearings on the status of the Nation's wetlands and laws related thereto.

The subcommittee is renewing its series of hearings which began in the spring of 1989. The subcommittee received testimony yesterday from the Conservation Foundation concerning the legislative proposals of the National Wetlands Policy Forum and also from the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers on those proposals and their activities.

National awareness of wetlands degradation was heightened in 1988 when the National Wetlands Policy Forum issued its recommendations outlining proposed actions at the Federal, State, and local levels to protect and preserve wetlands resources.

The subcommittee has been examining those recommendations and subsequent legislative proposals, as well as other proposals related to the regulation and preservation of wetlands.

Today's hearing is the first of our hearings in Washington at which we have received testimony from Members of Congress and public witnesses. We have made a commitment to conduct open hearings allowing individuals or groups from all points of view to testify concerning proposed changes to Federal wetlands legislation. By entertaining all perspectives, we hope to develop a clear idea of what Federal legislation is necessary and what shape that legislation should take in developing a comprehensive Federal-State program related to wetlands.

Before we begin with our first witness, I'd like to yield to my distinguished colleague from Minnesota, the ranking Republican member of the subcommittee, Arlan Stangeland, for whatever opening remarks he desires to make.

Mr. **Stangeland.** I would just say that at this point I strongly support the wetlands protections efforts and the reasonable goal of no overall net loss.

But I believe we have some serious problems with section 404 of the Clean Water Act and Congress should certainly consider new initiatives and programs such as expanding the CRP to include wetlands and improving notification of landowners about potential wetlands issues.

Thank you, Mr. Chairman. I look forward to reviewing today's testimony and hearing from our witnesses.

Mr. **Nowak.** Thank you very much.

Our first two witnesses will be Congressman Thomas Ridge from Pennsylvania and Congressman Bill Alexander from Arkansas.

We would state at the beginning that all of the witnesses' formal testimony will be incorporated in the record in totality, and we will let you proceed as you desire.

Congressman Ridge?

TESTIMONY OF HON. THOMAS J. RIDGE, A REPRESENTATIVE IN CONGRESS FROM PENNSYLVANIA

Mr. **Ridge.** Thank you very much, Mr. Chairman.

Mr. Chairman, Mr. Vice Chairman, friends on the Water Resources Committee, thank you very much for providing me with the opportunity to testify today.

Unfortunately, improving our wetlands conservation and regulatory policies is a national priority which we all recognize that this committee understands. The President's goal of achieving no overall net loss of wetlands is a challenge which must be met, but it must be met in a fair and effective manner.

As Congress moves to address the wetlands issue, it is most appropriate that the legislative recommendations of the National Wetlands Policy Forum serve as an initial point of reference. The Conservation Foundation and all of the members of the National Wetlands Policy Forum should be commended for their efforts today.

I would also be remiss if I did not note that it is our constituents that bring us together today, as well. Landowners, environmentalists, and men and women whose families are regulated on this issue are all calling for action. In our society we all reap the benefits of wetlands conservation. Wetlands protection also means regulation for some and limited, if nonexistent, land use for others. It affects many legitimate American enterprises and interests in many different ways.

Today you will hear from one citizens' group, the Pennsylvania Landowners Association, an organization that has grown in two short years from a handful of local families in Waterford, Pennsylvania—a small community in Northwestern Pennsylvania—to a membership of over 1,400 members. I might add that's just going on in Northwestern Pennsylvania where we've got 4 percent of the Middle-Atlantic State wetlands, and I suspect that that kind of activity is going on throughout the country.

These men and women believe that the legitimate rights of property owners are being lost in the debate inside the beltway. They are looking for balance. They are looking to ensure that the base does not deteriorate into simply a good guys/bad guys kind of arrangement where the environmentalists all line up on this side and the legitimate property owners are on this side. They are looking for a fair and balanced debate, as well as a balanced, comprehensive approach not only to the environmental problems but to their problems as landowners, as well.

In an effort to help this committee, I will try and just summarize my views on improving wetlands policies in comparison to some of the many recommendations made by the National Wetlands Policy Forum.

Currently I am circulating a legislative discussion draft which will soon be introduced as The Wetlands Preservation and Protection Act of 1990. My bill, at times with specific differences, incorporates several of the recommendations suggested by that forum. Given the fact that an estimated 80 percent—I say that again—80 percent of all wetlands are located on privately owned property, I believe that the Federal Government must provide tangible incentives for wetlands conservation. One of these incentives is included in my bill and calls for a Federal tax credit to be offered equal to the State and local property tax liability on the wetlands acreage, in exchange for the landowner entering into legal conservation agreement.

While proposing a tax credit for any interest in today's Congress is certainly controversial, it seems to me that if we are to prioritize wetlands conservation we must deal with the compensation issue for privately held lands in many different ways—and I might add tax incentives is one of the many different ways that we must take a look at the compensation issue.

The establishment of a Wetlands Preservation Trust is a concept that the policy forum promotes and has already been proposed by a colleague of ours from Florida, Congressman Bennett. My legislative draft proposes the creation of a nonprofit trust, including the tax incentives that the forum proposes. However, my legislation goes a little bit further. It also specifies that the board of directors of each trust include representatives from all organizations in the trust's service area which have an interest in wetlands conservation and/or regulation. Be definition that means that the members of the board of the trust should not be limited simply to the environmental community.

It seems to me that to be effective the trust should have the support of as many local and occasionally competing interests as possible. I think flexibility and pragmatism must be part of any forward-thinking policy if we are to expand as well as hold onto our wetlands base.

My proposal calls for an immediate and comprehensive study of wetlands banking. I know it is somewhat controversial, but I still think we should study it to determine what policies are appropriate and in what circumstances wetland banks could be utilized.

Agricultural conservation must also be a priority, and I would echo my support of the vice-chairman's comments concerning the use of the Department of Agriculture's Conservation Reserve Program. I think it provides and excellent vehicle for wetlands protection as we begin work on this year's farm bill.

Give the fact that most wetlands losses occur due to their conversation for agricultural purposes—historically, I might add, with the Federal Government supporting such action—reconversion of farm wetlands is a top priority. I think if we are fair with America's farmers, they can and will become an important part in our effort to regain lost wetlands.

I would also share with you some thoughts concerning the regulatory reform that I think is absolutely necessary, again piggybacking on the concerns of Chairman Nowak and Vice Chairman Stangeland. The environmental community sees loopholes in 404, business interests see the delays, and landowners see their land and property rights being regulated away without any incentives or compensation. I think that regulatory situation must be addressed—hopefully by this committee, and with some review to bring to the floor of the Congress what I consider to be some necessary reforms.

Until such time as our Federal house is in order, I believe that the policy forum's constructive suggestion of transferring substantial responsibility for wetlands conservation to the States may be premature. In my view, the Federal Government must better define our own programs and mission prior to delegating this tremendous responsibility to State and local governments.

On a final note, I believe that a cautious and deliberate approach is called for as we all strive to improve Federal wetlands policy. All significant deliberations—and I know this is shared by my friends on this committee—must be made in public, with all interested parties and all of our constituents being given the opportunity to formally comment.

While we are all anxious to move ahead, Federal agencies should not be the exclusive policy-making bodies on these particular issues and they should not develop policies alone or out of range of meaningful public or Congressional comment.

Again I thank my colleagues on this committee for the opportunity to testify. Please accept my personal commitment to work with this committee in your effort to achieve a workable, comprehensive—and when I say "comprehensive," I mean a balanced approach—toward validating and improving the President's no overall net loss of wetlands policy.

Mr. **Nowak**. Thank you very much, Congressman Ridge. I know that this committee had substantial input from you when we revised the FEMA legislation, and we worked mightily at that goal. I can't help believe that despite the problems we had in exercising FEMA authority in the practical world of the hurricanes, they'd have had greater problems had we not been able to finish that legislation when we did and have it operable when those disasters hit. So we want to thank you for that input.

We look forward to working with you on this broad proposal, as well.

Mr. **Ridge**. Thank you, Mr. Chairman.

If I might add, it is based on that experience working with yourself and Vice Chairman Stangeland I'm optimistic that this committee, once the public hearings are concluded and the recommendations are made, knowing that we untangled a rather thorny problem with FEMA, which pales probably in comparison to the wetlands issue, it can be done. I look forward to working with you and Vice Chairman Stangeland toward that mutual goal.

Mr. **NOWAK**. Thank you very much.

Mr. **RIDGE**. I beg your indulgence to leave to testify before the Banking Committee now—not on wetlands, I might add.

[Mr. Ridge's prepared statement follows:]

TESTIMONY OF CONGRESSMAN TOM RIDGE

Mr. Chairman, Mr. Vice Chairman, Friends on the Water Resources Committee,

Thank you for providing me with the opportunity to testify today. Fortunately, improving our wetlands conservation and regulatory policies is a national priority which this committee recognizes. The president's goal of achieving no overall net loss of wetlands is a challenge which must be met—in a fair and effective manner.

As Congress moves to address the wetlands issue, it is most appropriate that the legislative recommendations of the National Wetlands Policy Forum serve as an initial point of reference. The Conservation Foundation and all of the members of the National Wetlands Policy Forum should be commended for their efforts to date. The work of the policy forum has been a tremendous catalyst for public understanding and debate on a most difficult legislative, regulatory and legal issue.

I would also be remiss if I did not note that our constituents bring us together today as well. Landowners, environmentalists, members of the regulated community are all calling for action. In our society, we all reap the benefits of wetlands conservation. Wetlands protection also means regulation for some and limited land use for others. It affects many legitimate American enterprises and interests in many different ways. Today, you will hear from one citizens' group, the Pennsylvania Landowners Association, an organization that has grown in two short years from a handful of local families in Waterford, Pennsylvania, to a membership of over 1,400 members. They believe that the legitimate rights of property owners are being lost in the current debate inside the beltway.

Today, we are in need of leadership, direction, and clarification so that America's wetlands can be protected and the rights and interests of every individual in society can be recognized. As precious as every wetlands acre is in our pursuit of restoring and increasing our nation's wetlands base, the rights of every American who owns wetlands acreage must also be recognized.

In an effort to help this committee, I will try and summarize my views on improving wetlands policies in comparison to some of the many recommendations made by the National Wetlands Policy Forum. Currently, I am circulating a legislative discussion draft which will soon be introduced as The Wetlands Preservation and Protection Act of 1990. My bill, at times with specific differences, incorporates several of the recommendations suggested by the forum.

The policy forum calls for incentives for private stewardship of wetlands. I agree and am willing to propose significant incentives. Given the fact that an estimated 80% of all wetlands are located on privately-owned property, I believe that the federal government must provide tangible incentives for wetlands conservation. My bill would call for a federal tax credit to be offered, equal to the state and local property tax liability on the wetlands acreage, in exchange for the landowner entering into a legal conservation agreement. While proposing a tax credit for any interest in today's Congress is certainly controversial, if we are to prioritize wetlands conservation, we must deal with the compensation issue for privately held lands in many different ways. In this sense, I would propose that we do more to promote private stewardship than the policy forum would recommend.

The establishment of Wetlands Preservation Trusts is a concept that the policy forum is promoting and is already proposed in legislation, including that of my friend and colleague, Congressman Bennett's wetlands protection bill. My legislative draft proposes the creation of the non-profit trust, including the tax incentives that the forum proposes. However, my legislation specifies that the board of directors of each trust include representatives from all organizations in the trust's service area which have an interest in wetlands conservation and/or regulation. The diverse representation on the board of directors could help to relieve any potential land acquisition disputes. It may also help the trust to obtain the resources they need to acquire critical wetland habitat. To be effective, the "trust" should have the support of as many local and occasionally competing interests as possible.

I applaud the policy forum for recommending the consideration of wetlands banking and general permits as a part of responsible wetlands mitigation and planning policies. Flexibility and pragmatism must be a part of any forward thinking policy if we are to expand as well as hold onto our wetlands base. My proposal calls for the immediate and comprehensive study of wetlands banking to determine what policies are appropriate and in what circumstances wetlands banks could be utilized.

Agricultural conservation must be a priority and use of the Department of Agriculture's Conservation Reserve Program (CRP) provides an excellent vehicle for wetlands protection as we begin work on this year's farm bill. The policy forum calls for 7.5 million acres of the remaining acreage base to be dedicated for wetlands preservation. They also recommend that the federal government pay only 50% of the cost for re-converting farmed wetlands.

Given the fact that most wetlands losses occur due to their conversion for agricultural purposes, historically with the federal government supporting such action, reconversion of farm wetlands is a top priority. Therefore, it would be logical to conclude that if we paid farmers to drain the land initially, and now we come looking for permanent conservation easements, then we should pay the landowner the full cost of reconversion. If we are fair with America's farmers, they can and will become an important partner in our effort to regain lost wetlands.

Regulatory reform is also key to improving the nation's wetlands policies, as this committee with responsibility for the 404 program knows full well. Currently, in the real world, the 404 program is fraught with controversy. The environmental community sees the loopholes in 404, business interests see the delays, and small landowners see their land and property rights being regulated away without any incentives or compensation being given. The regulatory situation is complex, duplicitous, slow, and often unfair. Neither individual rights or wetlands tend to be effectively protected. I would urge this committee to review the current 404 program in earnest and recommend to the Congress necessary reforms.

Until such time as our federal house is in order, I believe that the policy forum's constructive suggestion of transferring substantial responsibility for wetlands conservation to the states may be premature. In may view, the federal government must better define our own programs and mission prior to delegating this tremendous responsibility to state and local governments.

On a final note, I believe that a cautious and deliberate approach is called for as we all strive to improve federal wetlands policy. In addition, all significant deliberations must be made in public, with all interested parties and all of our constituents being given the opportunity to formally comment. Agreements between agencies, many which in fact constitute major policy changes, should go through appropriate executive, congressional, and public review processes. The wetlands definition agreement and the mitigation memorandum of agreement are, in my view, worthy of further public and congressional review. While we are all anxious to move ahead, federal agencies should not be making policy either alone or out of range of meaningful public comment.

Thank you once again for the opportunity to testify and please accept my personal commitment to work with this committee in your effort to achieve a workable, no overall net loss of wetlands policy.

Mr. **Stangeland**. Before Mr. Ridge leaves, I'd just say that I share your optimism, as well. I think the Conservation Foundation and the National Wetlands Policy Forum did an outstanding job to give us a beginning document. And here you have the diverse interests of environmentalists and agricultural interests and developer interests, I believe. So you have the diverse voices there looking at how to put out a starting point for wetlands conservation and preservation.

I'm optimistic, as are you, that when you bring all the players in—the property owners, the environmentalists—reasonable people sitting down, this is a prime resource we have and it has to be protected and enhanced. I think we can do that.

Thank you.

Mr. **Ridge**. Thank you.

Mr. **Nowak**. We now turn to our friend from Arkansas, Congressman Bill Alexander.

TESTIMONY OF HON. BILL ALEXANDER, A REPRESENTATIVE IN CONGRESS FROM ARKANSAS; AND HON. BILL EMERSON, A REPRESENTATIVE IN CONGRESS FROM MISSOURI

Mr. **Alexander.** Thank you very much, Mr. Chairman and members of the committee, classmates, Mr. Packard, and others.

I will submit my statement for the record, if I may, and just summarize.

Mr. Chairman, I support the idea of no net loss for wetlands. Necessarily, wetlands are located in valleys, which also provide most of the farmland in our country. I have both waterfowl/wildlife areas, as well as farmlands in my district.

The present administration of the wetlands policy through the 404 provision by the Corps of Engineers, and particularly the interpretation of the "Normal farming" of that law, has created confusion and expense and places farmers in a dilemma that must be resolved somehow at the earliest possible time.

The administration of the provision by the Corps of Engineers is cumbersome. In most cases the Corps of Engineers, while a good agency, is not accessible to farmers. The availability of the Corps of Engineers to administer the provision is not timely. It is expensive and generally unworkable, causing possible financial loss and maybe even loss of real property.

I have studied the issue now for some time and have come up with a proposal which might resolve this issue. In order to get the proposal on the table, I will today introduce a bill, a copy of which has been provided to you, which, in effect, exempts agricultural lands previously in production.

If I might just read it quickly—it is very short—in order to get it before you, "Section 404 of the Federal Water Pollution Control Act (33 U.S.C. 1344) is amended by adding at the end the following subsection: "(u) Exemption of Agricultural Lands," "(1) GENERAL RULE.—This section shall not apply to the discharge of dredged or fill material into any wetland—(A) which was used for agricultural production on any calendar date in the 24-month period ending on the date of the enactment of this subsection, and, (B) which was used for agricultural production for at least 1 year in the period between January 1, 1972, and such date of enactment, so long as such land is used for agricultural production." And it goes on to define agricultural production.

In effect, what it does is say that if you are a farmer and you have been farming this land before the enactment of the wetlands protection provisions, you are exempt. That will treat the problem and will eliminate the possibility of confiscating land without just compensation.

If I were practicing law privately now and this section were administered in a way as to take land away from a client, I would probably want to litigate that question and take it through the courts hoping that the courts would resolve the dispute by enacting the Constitutional protection—I believe it is in Article IV—which prevents taking of property without just compensation. That, of course, is a lengthy, time-consuming, and costly way to resolve and address this issue or address and resolve the issue.

Another way that would be effective and fast is to address it legislatively; therefore, I make this proposal.

Mr. **Nowak**. Thank you very much.

One of the more contentious areas, as you rightly pointed out, Bill, was the agricultural community and the problem with what was farmed and what can be farmed. We are requesting that the Conservation Forum, plus EPA and the Corps, go back and review this problem for us. On the Conservation Forum there were representatives of the farming community, as you know, and the ranching community.

But I think more of this has to be explored because, at least in the past, the 404 program has really caused, as you well pointed out, the expensive problems and, of course, the most important is perhaps the taking of some private property.

We want to see if we can't resolve that and bring about a consensus. I think your suggestions here will be looked at in some detail, and when we start to formulate policy, I would hope to get back to you with the additional information we have from the Corps, from EPA, and the Conservation Forum to analyze your proposal.

Mr. **Alexander**. Mr. Chairman, may I cite one example of the confusion that is occurring?

My district is the largest rice-producing area in the United States. One of the procedures necessary to produce rice is to construct levees that contain water that fills the rice paddies to cultivate the crop.

Recently the Corps of Engineers held that a 404 permit was necessary to construct rice levees. Of course, it would take an army of bureaucrats to enforce and administer that decision. But it is that type of confusion that is being caused now by the administration of this provision by the Corps of Engineers.

The Corps of Engineers is a fine agency, but it is not capable of administering provisions that apply to agricultural practices.

May I offer, in the alternative of this bill, another suggestion—just to have everything out on the table—for your consideration that might ameliorate the problem.

If some of the provisions of the 404 law were reassigned to be administered by the U.S. Soil Conservation Service, which is more accessible to farmers than the Corps of Engineers, it would at least give them a forum to be heard by a competent and trained people who understand the problem. That would at least be a step in the right direction.

And so one of these two options I think would address the problem and eliminate some of the confusion that now exists throughout the farm community.

Mr. **Nowak**. Thank you very much. We'll take that under advisement.

Mr. **Packard**. Mr. Chairman, before you dismiss this——

Mr. **Nowak**. Let me—we'll go through regular order unless Mr. Alexander has another commitment.

Mr. **Alexander**. I would be pleased to stay as long as you'd like.

Mr. **Nowak**. There may be some questions.

Mr. **Alexander**. Sure.

Mr. **Nowak**. I want to give my members opportunity to ask questions, realizing that we are going to have to take a break for lunch for an hour or hour and a half and then come back, because it looks like the panels will take a considerable length of time through the afternoon, but it is the only way to bring the testimony before all the members if I want them to have the opportunity to ask questions.

Mr. Stangeland will be recognized.

Mr. **Stangeland.** Thank you, Mr. Chairman.

Thank you, Bill. I have to admire you in a way. I think you are flying into a very difficult situation.

Mr. **Alexander.** It won't be easy.

Mr. **Stangeland.** I think you may have somewhat of a unique situation, but certainly something that should be addressed.

I would hope that you work with the environmental community because when we developed Swampbuster—let me just give you a little history—one of our colleagues, Berkeley Bedell, was a strong proponent. When it was introduced in the Agriculture Committee I asked him the direct question: "What is the purpose of this?" Succinctly he said, "To prevent the further drainage of wetlands that had not been tilled because we didn't need any more farmland." That made good sense. But when the rules and regulations were drafted it went beyond that.

We have gotten to that milestone and I'm not sure we can retract. You know the environmental community is very strong in this Congress—and probably rightfully so—so I think we have to work with what we have. Your case may be unique. I know that I have concerns up in my area where people want to maintain drainage ditches that have been there for 40 years. They can maintain that ditch if they haul the spoil away, but they can't sidecast the spoil if they are going through a wetland; yet, sidecasting is an environmentally sound proposal. It doesn't fill a lot of wetland; it just fills that edge, prevents sheet erosion from water coming off the land.

So I think these are things that we can work out if we sit down as reasonable people and discuss them. I am encouraged when Secretary Yeutter says the penalties for implementation of Swampbuster were too severe. We want to take a look at that. And yet you have to have some kind of penalty or people are going to continue to drain wetlands.

I think agriculture has been the prime culprit over the years in draining too much of our wetlands, and I want to check out to see how much wetland we have drained since Swampbuster. I don't think that the agricultural community is as guilty as it was.

We also have on the books laws that are beneficial in that any land that Farmers Home takes back from a borrower, immediately if it is wetlands those wetlands are preserved. There is a perpetual easement placed on that wetlands. So we will recapture some wetlands there.

But we want to work with you. I'd like to ask you to think about this: we have 30 million or so acres in CRP. There are environmentalists and environmental communities who would like to see that go to 80 million. I don't think we can do that. I am not sure we can go that far. But we do have 10 million yet to fill because we put a moratorium on CRP and reconciliation last year and it will be addressed in this Farm Bill.

I am going to introduce a proposal that allows wetlands to go into CRP. But you can't pay a farmer for a wetland the same rate you pay him for total soil. So we have to find—Mr. Ridge talks about tax credits. We have to find a reasonable payment to the farmer to reduce his incentive to want to farm that wetland so that the wetland isn't a burden to him tax-wise, on one hand, yet it can't be an economic enhancer to him, on the other. He has got to get something for it, but he can't get as much as he would get for normal farmland.

I am thinking of taking the real estate tax and multiplying it by three, four, five, or whatever, and make that his payment so he recovers his taxes and has some incentive to leave it if it is to the benefit of the public—and it is to the wildlife, to groundwater recharge, to filtration of pollutants into that groundwater. That wetland has value to the whole country and the farmer shouldn't have to bear the burden of retaining that wetland for the benefit of all without some remuneration.

Mr. **Alexander**. Arlan, let me respond to your statement with separate two thoughts that are intertwined in everything we are saying here today.

First of all, let me observe that 15 years ago—maybe longer—I introduced an amendment to the Farm Bill that became law that authorized the Secretary of Agriculture to enter into lease agreements and easement agreements with farmers for the purpose of setting aside property for nesting, feeding, and wildlife purposes. That law has been scarcely used, I might add, and it is still on the books as far as I know, and it provides the authority for the Government to go out here and do exactly what you are talking about.

There are patches of land in small tracts of 1 acre to 50 acres everywhere. I went rabbit hunting a couple of weeks ago out in my district. There was a perfect little patch of 20 or 30 acres that is subject to this type of agreement with the Government. The farmer, I'm sure, would be glad to enter into such an agreement so long as he could use it and hunt on it and that sort of thing.

The other thing that needs to be addressed is the fact of legitimate, established, continuing farm practices that are affected by this law and that need to be recognized and exempt from the bureaucracy that has been dropped over these practices recently by the Corps of Engineers.

For many years we didn't administer this 404 law with the same vigor and the same comprehensive approach that is presently being given to it. That's history. But farmland is farmland, and you can't stop people from farming their land. You're going to wind up with one enormous lawsuit on your hands. It is a lawyer's dream.

What I am trying to do is save everybody a lot of grief and a lot of money, and this is one way to do that.

Mr. **Nowak**. I wonder if you would mind just staying around.

Mr. **Alexander**. Sure.

Mr. **Nowak**. We'll hear from Mr. Emerson, and then perhaps we could have related questions for both.

Mr. **Alexander**. OK.

Mr. **Emerson**. Thank you, Mr. Chairman.

I am delighted to have the opportunity to testify before this subcommittee on which I serve as a witness. Certainly it is a privilege to follow the gentleman from Arkansas, who I am sure has given you some flavor to reflect on about this issue as it affects our part of the country.

The southern boundary of my district is the northern boundary of Mr. Alexander's district, and we are mutually concerned about this issue.

I'm glad that we have this opportunity to discuss wetlands here today. I am not going to waste any time in getting to the point.

While I consider myself an ardent and practicing conservationist, I have very strong reservations about the Memorandum of Agreement and the efforts by non-legislative interests to change the definition of wetlands to further their own particular agenda, while ignoring the needs of our rural communities—particularly farmers.

Now, I have been a strong supporter for many years of providing natural wetlands for wildlife habitat. I am a member of Ducks Unlimited, which has been promoting of our wetlands long before it was fashionable.

Unfortunately, the current direction of our wetlands policy is progressing in ways that were never envisioned by the Congress. The changes that are being attempted do not follow Congressional intent. Rules and regulations are being written by bureaucrats who believe they have long been stifled over at EPA—particularly during the past eight years—and now, giving them an inch, they are taking the proverbial mile.

The Federal Manual for identifying and delineating jurisdictional wetlands written from within the bowels of the Interior Department makes serious changes in our definition of wetlands. These changes were never proposed or discussed before a committee of this Congress, nor were these changes ever submitted in the Federal Register. This new definition substantially impacts our Nation, particularly rural areas, and it enhances our Government's land-grab abilities.

The EPA has not kept it a secret that one of their goals is not only no net loss of wetlands, but to also restore former wetlands. This is a very, very significant change in our wetlands policy and no one should be misled by it. If this is the case, as now proposed, much of my Congressional district is going to go underwater. Over one million acres in my home area were swamps until the mid 1800s, and putting them back in their native state would be absolutely disastrous. The Mississippi River drains over 40 percent of the naturally occurring water in this Nation.

Moreover, if this policy, as now enunciated, is followed through to its logical progression, most of our national capital here in Washington, D.C., will revert to a swamp.

Wetlands definitions should not be applied to lands that have already been developed or are under cultivation. The United States Government doesn't need the headache, the expense, or the legal woes of conducting a Takings Implication Assessment as required by law and then payment of just compensation for taking or diminishing the value of the private property.

The framers of our Constitution had the foresight to prevent the Federal Government from being a land grabber. If we want to shut down our farms, our agricultural producers, indeed the bread basket of the world, then yes, include our farms and productive agricultural land. This will have a tremendous untold effect on rural America, and if that is the case, let's talk about just compensation for the taking of privately-held land.

Landowners in this country deserve respect and rights that many other countries in this world don't even acknowledge. We cannot, in good conscience, trample one of the most basic freedoms of this country.

Congress needs to decide, not the bureaucracy—and maybe the President needs to decide, too—is a wetland an area with trees and cattails and standing water and old, decaying logs? I think it is. Or is it to include farmland that has been planted through generations?

In my own Congressional district, legislation was established by this legislative body, by the Congress, to drain a swamp area that was a public nuisance—a breeding ground for disease and an irritation to transportation prospects. Until Congress has determined a proper definition of wetlands and legislates its intent, the definition of wetlands that was in place prior to January 10, 1989, should remain intact. Wetlands definitions should not be changed willy nilly by the bureaucracy without going through proper Congressional discussion and debate.

Some environmental organizations—I say some, not all environmental organizations—advocate measures to protect the environment that would totally stifle industry. They don't take into account the need for our economic growth, for increased energy sources for domestic use, for employment opportunities, and for the need to uphold treaties with our allies to provide vital resources in case of a world emergency.

It is naive to think that the EPA and certain elements of the environmental community will be happy with just a working definition of no net loss of wetlands. The ultimate victory for them is to delay the process and inject enough hurdles into the permit process that projects die before they ever get off the ground. Shall we turn substantial property holdings in this country into economically worthless property? I don't think so.

No net loss of wetlands implies a requirement to create an acre of wetland from a non-wetland area. Yes, it is a fact that 50 percent of the original wetlands in the United States, alone, have been lost. But let's not try to lump agriculturally productive land and actual swamps and the city of Washington, D.C., all into one single definition of wetlands.

So I look forward to this discussion and debate with my colleagues. We have a very, very serious issue here that needs our most thoughtful and careful attention.

I urge my colleagues to look deeply at their own interests, including the interest of having a productive agriculture community to produce the products for your kitchen tables and the kitchen tables of your constituents.

Remember: one environmentalist's endangered wetland waiting to be saved may be a farmer's agriculturally productive land waiting to produce food for the world.

I thank you, Mr. Chairman, and my colleagues.

Mr. Nowak. Thank you very much, Mr. Emerson.

We know of your continuing interest in this area. Certainly, as a member you will have substantial input, along with all of the members on the subcommittee, in devising a consensus that makes sense to the many different interests that are going to be affected by whatever we do, not only in the 404 permit program, but I think the broader sense of trying to establish for that 80 percent of private owners their sustainment of rights and uses of their own property.

We had yesterday, as you know, the opportunity to hear from EPA and also the Corps of Engineers. Specifically because of the interest in this of the agricultural community and the voices we heard not only here but in our field hearings, we know that we will to pay particular attention to the kinds of initiatives that we go forward with. As you pointed out, that taking issue is of particular concern.

It has been suggested by the forum and others that there be new incentives. Where those incentives come from—whether it is, as some have mentioned, the tax code, or perhaps direct participation—if a taking is required, there may be a larger Federal role and certainly, as it has been suggested, a much, much larger State role.

As you know, the States have the ability to take over the 404 permitting process. One State in the Union has done so. We are looking forward to some type of cooperative venture with the States so that we can have a better handle on the so-called grass root problem.

We look forward to working with you as we move through all of these hearings and the process. I want to thank you for your very clear testimony at the opening today.

Let me turn to Arlan Stangeland for questions.

Mr. STANGELAND. I have no questions of my good friend, Mr. Emerson. I look forward to sitting with him on this committee and working this out.

I just have to say to you and Mr. Alexander I think you have fired a shot across the bow, and I think that's appropriate. I think it gets it out in the open as to how some of the agricultural community feels. I'm sure there are a lot of environmentalist group representatives in this room, and they will have their day here before us. I think it will open the discussion, and that's what we need. I think we need clear and candid and frank discussion from both sides, and then sit down as reasonable people and work out what I hope will be a solution to no net loss and, in fact, whatever possible reclamation of wetland. I think it will.

Mr. NOWAK. Mr. Laughlin? These are questions, of course, for either one of our panelists.

Mr. LAUGHLIN. Bill, I want to commend you for introducing your bill to focus the attention on the problems that the agricultural community has had. While Texans like to brag, I can't outdo your district being number one in rice production. The Government figures show mine is only four in the United States in rice production. The rice people in my district have experienced the very problems you talked about.

But I want to shift to the ranching business, which there is a little bit of in my district and a little bit of in my State. I want to tell you that last week I was addressing a group of ranchers and farmers in San Antonio, and a rancher from West Texas came up to me and said his neighbor, who had a sizeable ranch, had built an earthen tank—as is common in that part of Texas—to feed his livestock. He was in the process of tearing it down because on another part of the ranch he had built a subsequent earthen tank. Because he had moved his herd and other cattle practices, he no longer needed that earthen tank.

The U.S. Fish and Wildlife Service were on his ranch counting deer and antelope and saw the bulldozer bulldozing down a tank that he had built some years before and no longer needed, and they stopped him. I was wondering if your bill addresses that kind of problem?

To the environmentalists here, we are not trying to stop wetlands development and protection; we're just trying to find a way for common sense for our agriculture people to continue to put food on the table.

I wonder if that addresses ranching problems, too?

Mr. ALEXANDER. I will respond to that. First, I'd like to say I am an environmentalist, and it is not my intent to fire a shot across the bow of the environmentalists. We need the environmental movement. In the last decade there has not been enough attention given to the environment. Water continues to be polluted. Air is poisoned. I'm going to vote for the Clean Air bill and be a part of it. I think all of that is important. I praise the environmentalists for being concerned about the future of this planet, because man's stewardship of it up to now is not too good. We are polluting it, poisoning it, and killing it. So we want to encourage them.

What I am trying to do is merely focus this issue and to get a resolution of it because a lot of innocent people are being hurt by the indecision and by the administration of the law. It needs to be cleared up and resolved.

Now, this language that I have here is not all-encompassing. If you wish to add to it, you are certainly invited to. But I have here agricultural production defined: "For the purpose of this subsection the term 'agricultural production' shall include but is not limited to —" and I go all the way down "to the raising of cattle, horses, poultry, swine, sheep or goats, and other livestock; storage of surface water for agricultural production —" which I think includes your watering tanks out in West Texas. If that is not good enough for you, you are welcome to suggest changes.

Mr. LAUGHLIN. I certainly want to be identified with your comments. The whole point is: if we don't have a common-sense approach to the agricultural needs and concerns of our Nation, we are going to lose the support of a very vital part of our population in trying to protect our environmental and certainly protect wetlands. I think that is what the gentleman from Missouri was talking about also, and I thank both of you.

Mr. ALEXANDER. May I add one postscript here for the environmentalists that are present? We all need to work together on this issue. This is not an adversarial issue that needs to divide farmers and environmentalists because farmers, for the most part, are conservationists and environmentalists, but they are also individualists. They want to be treated fairly by their Government, and they don't think the Government understands their problems in this case.

Here is an opportunity for the environmentalist community and Washington to pick up some allies in the larger fights that exist on many of the other issues that face our Nation this year and the years beyond.

Mr. **Nowak**. Thank you very much.

Mr. Lightfoot from Iowa?

Mr. **Lightfoot**. Thank you, Mr. Chairman, and I thank both of you for being here this morning.

Bill, I imagine someone could probably make a pretty legitimate argument that maybe letting part of Washington, D.C., go back to swamp would be not that bad of a deal for all of us. Depending on your point of view on a number of issues.

Yesterday at the hearing one of the questions that I had an opportunity to ask the EPA was: EPA claims that agriculture was 80 percent of this problem, recognizing that, how come agriculture had no voice when the agreements were drawn up? Their basic response was, "Well, this was a policy thing amongst the agencies to get our act together and that wasn't the appropriate time for input from agriculture."

I think part of what we are seeing happening here—and I'd like both of your opinions on this—is that we've got a situation here where a couple of agencies suddenly have a cure and now they've got to run out and find a disease to apply it to, rather than going from the other direction.

Back to what Bill said, I agree with him. The farmer is probably the best environmentalist there is out there. After all, it is his well that gets poisoned that his family drinks out of. Why in the world is he going to poison his own kids?

Now, that's not to say there haven't been abuses. But the other side of the coin is what we are doing with regulations to agriculture. I made this point yesterday, but I think it is important. A farmer today cannot buy chemicals anywhere unless he goes to school and gets a license. He can't buy them and he can't apply them. But anybody in this room can go down to Builder's Square, the local garden center, and buy anything we want—herbicides, pesticides, fertilizers—and do anything we want with them—double the dose on the yard, spray chemicals around the house, and this type of thing.

So I think there needs to be, as Bill suggested, some common ground between these factions that are involved here. But the question I guess I have for you is: I'm left with a sense that once again the feeling in farm country is that here is the doggone Federal Government trying to squeeze us out of business again, and that's the perception that is out there. Whether it is true or false, that's the perception that exists.

If you agree with that, then what is the best course of action that we take in trying to give direction to the Corps and the EPA that we come to this common ground that we are all talking about but I don't think we have come up with a solution how to get there yet?

Mr. **Emerson**. I would say first of all I think this series of hearings that this subcommittee is holding is a step in the right direction. At least some things that have been under the table are being laid out on the table.

I think if the EPA—you referred to it as their having said yesterday that it was a matter of several different agencies really getting their act together. I think if they ever formally issue it in the Federal Register and lay it down here before Congress in the manner in which it is evolved they will receive the response from agriculture that so far has, in a formal way, been lacking.

I would find it very difficult to disagree with what my colleague from Arkansas has said about the environment. We are all for clean air and clean water. The question is—we have to deal in reality—what is today in response to your comment about a solution to an ill-defined problem. We have got to deal with reality today. We have got to know what is real today.

Really these proposals, as they currently exist, the definitions that exist, it is no stretch of the imagination about it causing a large part of my district and of the gentleman from Arkansas' district to revert to swampland. Let's deal in the real world.

I think that we all—I know there are differing opinions about whether we really are or whether we really aren't intent on good conservation practices and what have you, but I certainly subscribe to good and strong conservation practices when we are applying them in the real world. But this idea of having millions of acres that have become, over the period of the last century to a century and a half, very productive acres that have become the most productive farmland in the world—we have the Mississippi Delta land—the idea of letting all that revert to swamp just doesn't make sense.

So I think it is a matter of being realistic and realizing that some mistakes have been made in the past and preventing them for the future. But, for Heaven's sake, we are not going to reclaim everything that has happened over the course of the past 150 years, so probably a good starting point is what this subcommittee is doing right here and now in looking at the world as it really is now and looking to the future as to how we may protect for the future. But let's not go back and try to make a good part of America the virgin land that it once was. It is not doable and it is not economically feasible.

Mr. ALEXANDER. Jim, I think this is a drafting problem. When we wrote the law back in 1972 and we referred to section (f) 404 and exempted what we called "normal farming" that we thought that was adequate, but we discover when it is applied it is inadequate. We need to redefine it and to be more precise in what we mean by it. It is our fault for not doing a better job some years ago.

Mr. LIGHTFOOT. The basic question, then, is: what point do we start from? Do we start from today and go on?

Mr. ALEXANDER. I put a bill on the table here that exempts farmland that has been in agricultural practice for X years and so on, and that's a good point to start from, I would think.

Mr. LIGHTFOOT. So you're basically saying let's take what we've got today and preserve from this point forward?

Mr. ALEXANDER. Right.

Mr. LIGHTFOOT. OK. Thank you. I appreciate it.

Thank you, Mr. Chairman.

Mr. **Nowak**. Thank you very much.

Congressman Parker from Mississippi?

Mr. **Parker**. Thank you, Mr. Chairman.

I appreciate your testimony today. There are two types of people I have never met. I have never met anyone who said they didn't know how to make love, and I've never met anyone who said that he was not an environmentalist.

I think that the points that you have raised factor in a commodity which very few activists ever use—and that's activists on both ends of the spectrum—and that's common sense. And unless we approach this thing in a common-sense manner, as my colleague from Texas said, we are going to have problems, and we will continue to have those problems.

I think that the points that you have brought up today should be very well considered by this committee, and I think we will, because I don't think we have much of a choice. In order to be realistic we have to use some common sense as far as approaching America's wetlands.

I appreciate your being here and testifying.

Mr. **Nowak**. Thank you very much.

We will now turn to Congressman Grant from Florida.

Mr. **Grant**. No questions.

Mr. **Nowak**. No questions.

Mr. Hancock from Missouri?

Mr. **Hancock**. Well, I would just merely like to say, number one, I appreciate the position that I am hearing this morning. Frankly, I think that the farming community nationally has operated as "stewards of the land." I don't think that anybody in agriculture has intentionally gone out and looked at it 100 percent from the standpoint of highest and best use, because I can cite you example after example where the farmer, the guy that has owned that land, has said, "I want to preserve." They are interested in the ecology. They are interested in clean air.

I am from a farming community. I have participated with Ducks Unlimited, with all types of conservationist groups—the wildlife groups, the tree planting groups. In fact, that has been one of the major efforts that we have worked on. And that's being done by the people that presently own that land without, in many cases, Government support of any type.

I think that we need to recognize that when it comes time for somebody with—and I'm definitely in favor of control of our environment. I recognize that there are errors made, but I also think that Congressman Lightfoot's comment that an awful lot of this problem that we are experiencing now with clean water and what have you cannot be put on the farmer. I think that a lot of that comes from the metropolitan areas and I think we have to consider that one of the great things about this country is the right of ownership and use of private property.

Every place I go I hear from the farmers, "We want to cooperate." I think that we will get that cooperation. But I also know that the farming community, just as there is a sense of independence, resists almost any time that we in Washington decide to force something down their throats. That's just the nature of the people that are out there looking after that land.

So let's be reasonable. Congressman Parker's comment about a shortage of common sense—I think many times if we start looking at the idealistic situation we forget about the fact that there are people involved.

Somebody said the other day that if we weren't awfully careful we were going to have the cleanest depression in history. [Laughter.]

So let's think about that when we are in our deliberations here in Washington.

Thank you, Mr. Chairman.

Mr. **Nowak**. I will recognize Congressman Roe from New Jersey. Bill, you've got rice; Mr. Roe has cranberries.

Mr. **Roe**. Makes a great combination. Nobody has put them together yet, but it is about to happen today.

Thank you, Mr. Chairman. I apologize to you and to the members and our special members that are here today testifying. I didn't hear all the testimony, but I understand that Bill Alexander particularly spoke in one area to the rice situation. I mentioned at yesterday's hearing that we have a very comparable situation in the cranberry industry in New Jersey and Massachusetts, Rhode Island, Wisconsin, Washington, and Oregon.

It seems to me that, as we start looking to further modifications, we have had a terrible time in trying to get the proper permitting going in that particular agricultural area, which I am extremely interested in. It is a very unique business and industry. It started in colonial times. It is one of the few indigenous crops to this country. It came from the Indians. We have been raising cranberries even before we became a Nation.

I support the point of view in some comments that were made by John Paul Hammerschmidt yesterday on the rice issue. It is the concern for the bogs that are used for cranberries. Here they, in effect, literally create wetlands in the first place.

So from my point of view, I think as we go through and look over this entire area and we start talking about 75 percent of the so-called wetlands of the Nation being privately owned, there is an enormous responsibility involved here. It is not just that simplistic to say "I'm for the protection of wetlands." It is not just that simplistic to say, "We'll go ahead and do more regulations, more regulations, more regulations," which constantly contravene each other.

Without taking more time, Mr. Chairman, I hope that as we unfold the proper direction to go here that we establish agricultural wetlands. Maybe we have to coin and identify and qualify what we are talking about. It seems to me to be ridiculous to be in a point that we are going to fill in the wetlands we are using for some other purpose when there is viable production taking place as far as people are concerned.

The other point I'd like to make for the record, as I mentioned yesterday: due to the fact that 75 percent of these lands are privately owned in the country, I think there has got to be a very imaginative approach to this thing; otherwise, we are, in effect, taking the property rights away from people without due compensation under the Constitution, and I don't think that's the proper way to go.

I just wanted to get it on the record that Roe from New Jersey is very sympathetic to the gentlemen who are working on rice and other programs which, in my judgment, create wetlands and do not destroy them.

I wanted to be able to say that, Mr. Chairman. I thank you for your indulgence.

Mr. NOWAK. Thank you very much, Mr. Roe.

We want to assure the two representatives here that we will get back to them. Of course, Bill, you'll have the opportunity to walk right through this whole process as we start to develop and see where we can.

If you have other suggestions, and as you go back to your communities and feel there are any unique or innovative ways that we could achieve the President's goal of no net loss with some other initiative, we'd be happy to hear that as we go through the process.

Thank you very much.

Mr. EMERSON. Mr. Chairman, if I may suggest—if it would be appropriate at some point in the subcommittee's deliberations, I am sure Mr. Alexander would be glad to join me, I would hope, in hosting the subcommittee. If you would like to come down, our districts border each other. We could show you first-hand what this problem is really like. It might be useful for the subcommittee to take a look at it.

We are proud of our region. We are proud of what we do, what we produce, and what our potential is. We'd love to share it with all of you.

Mr. STANGELAND. When does your duck hunting season start?

Mr. EMERSON. You're a little late for that.

Mr. ALEXANDER. It will be a little better in November when we start shooting ducks.

Mr. NOWAK. Well, we would hope to move before November. But let me—we have, of course, put in place a schedule for our water resources legislation, for water pollution control legislation, and that will probably take us well into May. But after that we may be able to look at a field hearing throughout the country.

Mr. EMERSON. That sounds like a good idea.

Mr. ALEXANDER. Yes, that is a good idea.

Mr. NOWAK. Thank you very much. I would like at this time to submit for the record the statement of E. Thomas Coleman, our colleague from Missouri.

[Mr. Coleman's prepared statement follows:]

STATEMENT OF E. THOMAS COLEMAN

Mr. Chairman, the impact of Section 404 of the Clean Water Act on farmers and landowners in north Missouri is becoming ever more onerous. Family farmers and small landowners are finding it difficult, even impossible, to deal with the overzealous federal bureaucrats that are being sent out to enforce this Section of the Act.

This is the result of a regulatory program administered by several agencies, which until recently appeared unable to agree among themselves on the appropriate regulatory program. The Crops demands one thing, while U.S. Fish and Wildlife personnel appeared involved in harassment of farmers and farming generally. The disagreement has resulted in a confused and inconsistent set of policies at least in EPA's Region VII. These were merely bothersome. I fear what will occur under this Act when these various agencies finally set out on the same road with the same destination. And, from reading the various documents produced by these agencies during the past several months, I conclude they are beginning to proceed with a common purpose, however much they may lack in common sense.

My colleague from Missouri, Mr. Emerson, a member of this Subcommittee, suggested that if enforcement of this law is taken to its logical conclusion his congressional district will be under water. Representing a part of Missouri upstream from Mr. Emerson, it does not give me much comfort to tell you that my congressional district could become a large wildlife refuge, with no place for responsible people to farm or make a living.

All of us are *for* conserving our natural resources. We understand, and the farmers and producers we represent understand, the value of wetlands, As Ranking Member of the Agriculture Committee's subcommittee on conservation, I helped write significant conservation legislation contained in the 1985 Food Security Act. But we can't just write legislation and then turn things over to the bureaucrats. Our good intentions of the Clean Water Act need to be addressed from a commonsense standpoint and how they are put into practice in the field may be the most important aspect of the law. For that reason, Mr. Chairman, your hearings in anticipation of amending this Act are very critical to ensuring that the bureaucrats are conforming to congressional intent.

One need only to read the table of contents of the *"Federal Manual for Identifying and Delineating Jurisdictional Wetlands"* to confront a mass of arcane information in which it appears many topographies could be classified as "wetlands". Small landowners are at the mercy of federal bureaucrats even if they have the resources to hire an attorney, a soil scientist, an agronomist and a semanticist who can decipher the contents of this manual.

"The Mandatory Technical Criteria for Wetland Identification" in Part II, says wetlands possess three essential characteristics—hydrophytic vegetation, hydric soils and wetland hydrology, which is the driving force creating all wetlands. That is fair enough, if all three characteristics are verified for a parcel of ground to be classified a wetland.

In a pargraph on hydrophytic vegetation, the manual says that nearly 7,000 vascular plant species have been found growing in U.S. wetlands but that only 27 percent of these are called "obligate wetland" species, meaning they almost always occur in wetlands under natural conditions. The manual further states, "This means that the majority of plant species growing in wetlands also grow in nonwetlands in varying degrees." As a layperson, I find that sentence somewhat troubling as to how wetlands are classified as to their hydrophytic vegetation.

Regarding hydric soils, the manual states that hydric soils, in general, are usually flooded, ponded, or *Saturated* (emphasis added) for usually one week or more during the period when soil temperatures exceed 41 degrees Fahrenheit. I would venture to say such a definition could include virtually hundreds of thousands, if not millions of acres, currently under annual agricultural productions.

But turn a page or two and read under the general heading, "Wetland Hydrology", what appears to be an exception to the rule just cited. In a *note*, not an exception, the manual reads that ". . . an area saturated for a week during the growing season, especially early in the growing season, is not necessarily a wetland."

Mr. Chairman, I do not wish to belabor this issue. Thirteen pages into this manufal it is obvious that only trained earth scientists immersed daily in this trivia can understand it. And yet, we must assume that federal agencies are taking this manual with them to the field daily in order to coerce unsuspecting landowners into doing what they are told. Those who question this system learn quickly what they are up against.

If even half of the occurrences about which I have been told have actually taken place, Mr. Chairman, it appears the federal government has several agencies running roughshod over well-meaning citizens. In point of fact, one employee of the Fish and Wildlife Service was transferred out of Missouri because of the distress his aggressive and uncompromising attitude caused local farmers.

I believe this Subcommittee can address these issues and protect our resource base for the future while working with those who own and make their living from the land.

[Mr. Emerson's prepared statement follows:]

STATEMENT OF HON. BILL EMERSON BEFORE THE WATER RESOURCES SUBCOMMITTEE

Mr. Chairman, Members of the Subcommittee:

I am glad that we have the opportunity to discuss wetlands issues here today. I will waste no time in getting to the point: while I consider myself a very ardent conservationist, I have strong reservations about the current Memorandum of

Agreement and the efforts by non-legislative interests to change the definition of wetlands to further their own particular agenda, while ignoring the needs of our rural communities, particularly farmers.

I have been a strong supporter for many years of providing natural wetlands for wildlife habitat. I am a member of Ducks Unlimited, which has been promoting protection of our wetlands long before it was even fashionable. Unfortunately, the current direction of our wetlands policy is progressing in ways that were never envisioned by Congress. The changes that are being attempted do not follow Congressional intent. Rules and regulations are being written by bureaucrats who believe they have long been stifled over at EPA during the past eight years, and now, giving them an inch, they are taking a mile.

The Federal Manual for Identifying and Delineating Jurisdictional Wetlands, written from within the bowels of the Interior Department makes serious changes in our definition of wetlands. These changes were never proposed or discussed before a Committee of this Congress, nor were the changes proposed in the Federal Register. This new definition substantially impacts our nation, particularly rural areas, and enhances our government's "land grab" abilities.

The EPA has not kept it a secret that one of their goals is not only no net loss of wetlands, but to also restore former wetlands. This is a very significant change in our wetlands policy. If this is the case, much of my Congressional District will be underwater. Over 1 million acres in my home area were swamps until the mid-1800's and putting them back in their native state would be disastrous. The Mississippi River drains over 40% of the naturally occurring water in this nation. Moreover, our very own national capital, Washington, D.C. will revert to a swamp.

Wetlands definitions should not be applied to lands that have already been developed or are under cultivation. The United States government does not need the headache, expense, and legal woes of conducting a Takings Implication Assessment as required by law, and then payment of just compensation for taking or diminishing the value of the private property. The framers of our very own Constitution had the foresight to prevent the federal government from being a "land grabber."

If we want to shut down our farms—our agriculture producers, the breadbasket of the world—then, yes, include our farms and agricultural productive land. This will have a tremendous, untold effect on rural America. And if that is the case, lets talk about just compensation for the taking of privately held land. Landowners in this country deserve respect and rights that many other countries in this world do not even acknowledge. We cannot in good conscious trample one of our most basic freedoms in this country.

Congress needs to decide—not the bureaucracy—and maybe the President needs to decide too—is a wetland an area with trees, and cattails and standing water, and old decaying logs, or is it to include farmland that has been planted through generations. In my own Congressional District, legislation was set up in 1849—by this legislative Body—to drain a swamp area that was a public nuisance—a breeding grounding for disease and a transportation irritation.

Until Congress has determined a proper definition of wetlands and legislates its intent, the definition of wetlands that was in place prior to January 10th, 1989 should remain intact. Wetlands definitions should not be changed willy-nilly by the bureaucracy without going through the proper Congressional discussion and debate.

Some environmental organizations advocate measures to protect the environment which would totally stifle industry. They do not take into account the need for economic growth, for increased energy sources for domestic use, for employment opportunities, and for the need to uphold treaties with our allies to provide vital resources in case of a world emergency.

It is naive to think the EPA and certain elements of the environmental community will be happy with just a working definition of no net loss of wetlands. The ultimate victory for them is to delay the process and inject enough hurdles into the permit process, that projects die before they ever get off the ground. Shall we turn substantial property holdings in this country into economically worthless property? I think not.

"No net loss" of wetlands implies a requirement to create an acre of wetland from a non-wetland area. Yes, it is a fact that 50% of the original wetlands in the United States alone have been "lost". But, let's not lump agriculturally productive land and actual swamps and the city of Washington D.C. into one definition of wetlands.

So, I look forward to this discussion and debate with my colleagues. We have a very serious issue here that needs our most thoughtful and careful attention. I urge my colleagues to look deeply at their own interests, including the interest of having a productive agriculture community to put produce on the kitchen tables of your constituents. Remember, one environmentalist's endangered wetland waiting to be "saved" is a farmer's agriculturally productive land waiting to produce food for the world.

Mr. NOWAK. I'd like to call the second panel forward. We have Delegate Samuel Q. Johnson from the Maryland House of Delegates. If he is present he could come to the witness table. Also, Assemblymembers McKie Campbell and John MacKinnon from the City and Borough of Juneau. Another witness is Steve Silver, the Washington Counsel for the Municipality of Anchorage. We also have William P. Horn who is an attorney for the Alaska Wetlands Coalition. And we have Roger Herrera, who is the Executive Consultant of BP Exploration—Alaska.

Gentlemen, if you will come forward at this time, we will accept your statements in the record in their totality and ask Delegate Sam Johnson if he would present his oral testimony.

TESTIMONY OF DELEGATE SAMUEL Q. JOHNSON, MARYLAND HOUSE OF DELEGATES; STEVE SILVER, WASHINGTON COUNSEL, MUNICIPALITY OF ANCHORAGE; ASSEMBLYMEMBER McKIE CAMPBELL, CITY AND BOROUGH OF JUNEAU, AK; ASSEMBLYMEMBER JOHN MacKINNON, CITY AND BOROUGH OF JUNEAU, AK; WILLIAM P. HORN, ATTORNEY, ALASKA WETLANDS COALITION; ROGER HERRERA, EXECUTIVE CONSULTANT, BP EXPLORATION—ALASKA

Mr. JOHNSON. Mr. Chairman, I thank you very much for the opportunity to be here this morning. I'd like to express thanks to Ken. He has been very gracious in helping me. I'm a country boy, and even being able to find this building up here today required his help.

I am a member of the Maryland Legislature. I serve on the Environmental Matters Committee in Annapolis. I have for eight years. We have naturally been very active in environmental issues.

I want to make it perfectly clear that I am here today just speaking for myself and the area of Maryland in which I live and not for the Governor of the State of Maryland nor for the Speaker of the House, although the Speaker of the House told me I had better be here today.

I think the issue—Mr. Chairman, please feel free to stop me at any time. This is my first visit, so I don't know if what I am going to say is appropriate for today's calendar.

Most of the previous testimony has dealt with wetlands in general and in agricultural wetlands. That certainly is a big part of this picture. But in Maryland our concern today, or my concern, is what I would define as "non-tidal wetlands."

Since the new manual was published in 1989 for the identification and delineation of non-tidal wetlands, it extended in Maryland great, great portions of entire counties. When you speak of mitigation and alternative locations, in the position that we are in it is almost an impossibility.

I have a map here I will just hold up briefly for a second. I believe you have received information on the percentage of land in some of our counties. I don't know how familiar you all are with the Eastern Shore of Maryland. Ocean City is a popular summer resort. But four of the counties that I represent—for instance, Dorchester County—now would be classified as 60 percent of the entire county will be under this new Federal manual for wetlands, both tidal and non-tidal. Somerset County, where one of our fine governors, Governor Tawes, came from, is 71 percent non-tidal wetlands.

Now, that poses a tremendous problem to us. The farmer who would want to let his son build a home may have to go 40 miles away before he finds any high ground at all.

This land, gentleman, as I am sure you are aware, is land that has not been dredged up. It is not a former swamp, bog, or marsh, which most of us previously thought of as wetlands. This is natural farmland that has been there since the beginning of time and just happens to be a low area with a high water table. Under this new definition it becomes non-tidal wetlands.

So our concerns and our hopes would be and what we are trying to do in Maryland—as you know, under the 404 program there is a provision for State assumption. We passed legislation last year trying to address non-tidal wetlands. We are in the throes of that right now. We are negotiating with EPA and the Corps of Engineers to come up with a general permit that the State Department of Natural Resources can take, and therefore we can take over the enforcement and assumption of this program.

Now, at the same time we are trying to say to the Corps that we are going to save you all a lot of money, the State is going to take on this program, and we have a few concessions in here—some things that we would like to see that we feel like we have tailored this program for Maryland. That's where we are.

We also have legislation in that will say if the Corps does not adopt our program, then we are simply going to back off and let the Federal Government handle it.

Hopefully I guess the main point I'd like to make to you all today is that we see it from the part of the country where I reside as a very strong need for a flexible program with some variable things where the mitigation a lot of people will say is a way you can work with this program. But our figures in Maryland, through our State Highway Administration, who has been involved with the Corps and done some mitigation and are creating wetlands, the numbers start at about $35,000 an acre and go right up to $50,000 to $60,000 an acre, so that just takes it out of the realm of being a workable part of this program.

I'm going to close. Again, I just appreciate the opportunity to be here. Again, I'll hold this map up very quickly. To a county that is 70 percent wetlands, it is a difficult situation.

You should also know that we have a very strong program in Maryland that we feel covers tidal wetlands. Our critical areas legislation I think is looked upon by many States as a very good program. That's working along very well now. But this poses a tremendous problem to us.

What is happening particularly on the Eastern Shore and lots of parts of Maryland, the banking industry and the real estate industry are slowly on the verge of coming to an almost halt this summer. Banks are turning down loans. They're not sure whether a farm is non-tidal or what it is. Ocean Pines has 3,000 lots that were subdivided by Boise Cascade back in 1977. Water and sewer run through this development, and yet the people are being required to get a permit from the Corps, which takes several months. So it is a predicament to us economically, as well as our concern for the farmers.

Mr. Chairman, I appreciate being here. It is a treat to be with some folks from Alaska.

Mr. **Nowak**. Thank you very much.

Let us turn to the—we'll go through the whole panel and then ask whatever appropriate questions we'd like to.

Mr. Silver?

Mr. **Silver**. Thank you, Mr. Chairman.

My name is Steve Silver. I am counsel for the Municipality of Anchorage. I appreciate that my full statement will be in the record, so I will summarize it.

Mr. **Nowak**. Your prepared statement will appear in the record immediately following your oral presentation.

Mr. **Silver**. The municipality is the largest urban center in Alaska. It comprises approximately 50 percent of the State's population. The municipality has been very active in the wetlands debate, both recently and in previous years. Our principal message to the committee is to call the committee's attention to Alaska's specific topographical wetlands circumstances, which we believe make it a candidate for special consideration.

Nearly 45 percent of the entire geographical area of Alaska is wetlands. That's 170 million acres. Now, of that 170 million acres, only 80,000 acres of wetlands have been touched in any way, shape, or form. So the wetland base in the State of Alaska remains virtually pristine and virtually untouched. Now, that is good news for the wetlands base, but it also creates a unique problem in Alaska as it relates to a no net loss policy.

Frankly, a no net loss policy in Alaska applied strictly and requiring mandatory compensation—which is what is being discussed—will simply not work. It will not work in the sense that it will make it virtually impossible for any further economic development in Alaska to occur. This is for two reasons. First, it is very, very difficult to apply a mandatory compensation regime to Alaska. The nature of the soils in Alaska are different. They contain a lot more water than your average soil. A variety of characteristics of wetlands occur in soils throughout Alaska and lend themselves to a larger definition of wetlands; therefore it is virtually impossible to create compensatory wetlands in Alaska. Consequently, if acre-for-acre compensation requirement is required, it will mean leaving the region, probably leaving the State, to create wetlands. Frankly, we don't think that makes sense.

Anchorage, is a major service center for the entire State. Many of the goods which are transported in Alaska or to Alaska go through our airport or go through our ship port. So we have a State-wide perspective and are very concerned about not just the effect of no net loss in Alaska, but in all parts of the State, with particular interest in the North Slope where oil development is continuing and we hope will continue for many years.

Additionally, Anchorage is one of the communities which has, in cooperation with the Corps of Engineers, instituted a specific wetlands plan. This wetlands plan, called the Anchorage Wetlands Plan, was instituted in 1982. It provides for three categories of wetlands—preservation wetlands, conservation wetlands, and developable wetlands.

All of this is covered in my statement, but I will briefly describe it. Because the entire Anchorage population center and municipality is mapped out under this wetlands plan, there is already a very sound existing structure to ensure the protection of wetlands in the Anchorage municipality. To overlay no net loss as a policy on top of that would, frankly, destroy the existing wetlands plan and make us go back to ground zero.

Preservation wetlands are wetlands which have been designated essentially for no major change. The only activities that are permitted are activities which would enhance the wetlands. So these are wetlands in the municipality which will not be changed.

Conservation wetlands are a specific kind of wetlands where certain changes are allowed, certain fill can be permitted, but it is done on a very careful basis.

Developable wetlands are wetlands where, under the plan, there would be the ability to fill for development. We think the plan works very soundly, and we would be very upset to see the plan disrupted by no net loss.

So the municipality's position is to urge the committee to give very careful consideration to how no net loss affects a place such as Alaska which has so much wetlands that it is very difficult to do anything where you don't affect the wetlands, and to provide some type of standard that would permit either an exemption or some kind of flexibility from no net loss which would assure that the overlay of a no net loss policy would not basically shut down the ability to do economic development which is necessary to the State's economy.

Thank you very much.

Mr. NOWAK. Thank you very much.

We will now hear the testimony of Assemblymembers McKie Campbell and John MacKinnon. Mr. Campbell, would you like to go first?

Mr. CAMPBELL. Yes, sir.

Thank you, Mr. Chairman and members. I am McKie Campbell, member of the Juneau Assembly. With me is John MacKinnon. We'd like to speak to you briefly about the no net loss wetlands policy and, in particular, the experience that Juneau has had over the last four years in working with the Corps and the EPA in trying to adopt a wetlands plan that would work for Juneau.

Juneau is the capital city of Alaska. Like most of the State, a high percentage of its flatlands—what flat land it has—is classified as wetlands. Because of this, over four years ago we began to develop a wetlands management plan. Our goal in developing this plan was to protect our valuable wetlands and to allow reasonable development on the least valuable.

Juneau is a community with very strong environmental concerns. Even before the passage of the Clean Water Act, Juneau had set aside almost 4,000 acres in the heart of our urban area to protect as a wetlands refuge. We have also, through general obligation bonds, had an ongoing and vigorous program to purchase buffer strips along salmon streams. We have protected, over the last 12 years, our wetlands by buying those wetlands.

However, in Juneau there are only 22,300 square acres that are at all reasonable for development. When you subtract out wetlands, there are approximately 3,000 acres left. That is simply not enough room to allow any growth for the city and borough of Juneau.

Over ten years ago the city and borough began an ambitious sewer and water project. We have spent over $45 million on our water system and over $100 million on the water and sewer facilities combined. We did that based on a sound local planning effort in connection with the appropriate Federal agencies at the time. We are now being told that much of the area—actually, most of the area—that is served by these utilities now would be classified as wetlands and, by an advanced identification process by the Corps and EPA, would be deemed generally unsuitable for fill.

As I am sure you are aware, right now there are extensive wetlands requirements that any applicant must go through in order to get any type of fill permit or use permit. In Juneau we have a problem of boundary determination, where the boundaries are determined solely by aerial photography. The lines are then drawn on aerial photographs with a felt-tipped pen. These maps do not indicate property lines or land use patterns. And to get someone from the Corps or EPA to come down, we have to get them down from Anchorage, over 500 miles away, in order to interpret this. This creates lengthy delays.

There is also a very chilling effect of outright denial of any wetlands permits.

Right now we have had a number of projects within our community, including a shelter for the homeless, an extension of the airport, and various other things which have simply been denied or Federal agencies are objecting to.

Because of these ongoing problems, Juneau has invested over $250,000—we are a small community, and this is the largest amount we have invested in any planning effort—to do a wetlands program. As I mentioned, this was to identify and protect our high-value wetlands and allow some reasonable development on the less-valuable wetlands.

To do this we hired a person, Paul Adamus, who is regarded as the Nation's top expert on wetlands. In fact, subsequent to completing our study he was hired by the EPA to head their research effort. He identified all the wetlands. We then went through an extensive process of public hearings and we classified wetlands and began to initiate a city effort to do this.

However, the EPA, which invested $30,000 in this study, has taken this data, has then basically used it for their own ends, and is in the process of doing what they call an advanced identification process, which has termed almost all of our wetlands generally unsuitable for fill. John MacKinnon, who is with me, has some specific recommendations and comments on the problems this has caused us and recommendations for any use of the advanced identification process.

Thank you.

Mr. **Nowak**. Thank you very much.

We'll turn to John MacKinnon now.

Mr. **MacKinnon**. Yes, sir. Thank you for this opportunity to testify.

In response to our efforts to develop a local management plan for wetlands and, further, to apply for a general permit authority for those wetlands, the Corps of Engineers and the Environmental Protection Agency invoked a little-used authority to issue an advanced identification of these wetlands. An advanced ID is listed in the dredge and fill permit regulations as "planning to shorten permit processing time."

In Juneau's case the advanced ID consists of two major lists. The first one identifies all wetlands which have any possible development potential as unsuitable for development. The second list identifies wetlands which have virtually no practical development potential such as mountaintops, a few scattered parcels—including a city park—as generally suitable for fill.

Juneau had protested the advanced ID from the day they first said they were going to issue it, and we delayed the issuance for many months, but it was ultimately issued.

It reached its nonsensical conclusions by willfully ignoring the fact that Juneau has no practical alternatives. What is not water is steep mountain slopes, and in between is wetlands.

Our specific recommendations with regard to advanced identification in the 404 process are as follows:

The EPA should be directed not to use advanced identification to preempt the local planning effort. If a municipality takes the initiative to finance a wetlands management plan, it should have the right to complete it and present its findings and any general permit requests to the Corps of Engineers without EPA preemption of the request.

The language in 404(b)(1) 230.80 should be changed to require State approval of the initiation of an advanced identification.

The advanced identification regulations should clearly require that all factors which would be considered by the Corps of Engineers in the review of an individual discharge of dredge or fill permit—that's a 320 permit—must also be considered in the advanced identification.

The discharge of dredge and fill permit regulation should specify the factors that the Corps of Engineers should review to determine if a general permit should be issued. The specific factors which should be considered are a comparative evaluation of wetlands functions and an evaluation of the practical alternatives to wetland development.

Finally, general permits should have certain standard controls including criteria for the Corps of Engineers to approve the local administrative process and to retain veto authority over an individual local permit decision.

All general permits should have a standard specified life.

Thank you.

Mr. Nowak. Thank you very much.

We will now hear from William P. Horn of the Alaska Wetlands Coalition.

Mr. Horn?

Mr. Horn. Thank you, Mr. Chairman. It is a pleasure to be here appearing on behalf of the Alaska Wetlands Coalition, which is a voluntary coalition of municipalities, Native corporations, resource companies, and others. The coalition has been formed to address

404 reform issues and no net loss proposals and how they could impact Alaska and Alaska's interests.

As the Administration pursues its review of the 404 program and the no net loss goal, and as you consider legislative proposals, we urge you to pay particular attention to the special circumstances and features that exist in Alaska. These are not only physiographic, but they are legal and social, as well.

Vast areas of the 49th State are expansively defined as wetlands under current 404 regulations and the existing Wetlands Delineation Manual issued by the agencies. That covers an area of approximately 170 million acres, which is comparable to the size of the State of Texas. However, these areas possess, in general, low functional and low habitat values—quite a contrast to what we think of as the traditional high-productive wetland areas.

Indeed, when most of the public debate occurs on wetlands we have, in our mind's eye, a view of productive marshes that are important for fish and for wildlife. We think of waterfowl resources.

I think it is important that the committee understands that when you take the word "wetlands" to Alaska an awful lot of that vision disappears. Millions of acres of Alaska's wetlands frankly qualify only as critical mosquito habitat and do not provide the important functional and habitat values that are found in many other parts of the country.

Without dwelling on it further—I think Mr. Silver touched very well on the particular problems faced with pursuing mitigation approaches in Alaska created by the physiographic nature of the State.

Since nearly 50 percent of Alaska is presently defined as wetlands under the 404 program, community development and resource extraction activities are very hard hit by the 404 program and, indeed, would be harder hit if the program is expanded through a no net loss arrangement.

Because of the pervasive nature of the 404 program, virtually all local activities now involve a significant degree of interaction with the EPA and the Corps of Engineers, as the representatives of Juneau and Anchorage have pointed out.

What has happened, in essence, is that the Federal regulatory agencies have become, in effect, local zoning authorities. I'm not sure that is something that was contemplated when Congress enacted section 404 in the 1970s.

Now, the municipalities' types of problems have been articulated here by the representatives from Anchorage and Juneau. There is something else I think the committee needs to be cognizant of, and that's the particular circumstances that the 404 program and a no net loss policy would inflict upon the unique Alaska Native corporations.

Alaska Native corporations were formed pursuant to the Alaska Native Claims Settlement Act of 1971 passed by Congress and provided them a land settlement for settlement of their aboriginal claims. The purpose of this unique settlement was to enable Native corporations—not tribes, but corporations—to utilize the lands that they received and to create economic opportunities for their people.

Now the use of these very lands in many parts of remote Alaska is threatened by section 404—especially an expanded effort that might occur attendant to adoption of a no net loss goal. I think it strikes many members of the coalition as highly inequitable for Congress, on one hand, to provide land in settlement of an aboriginal claim and say, "Go out and create economic opportunities for your people," and, on the other hand, come up with a regulatory program that basically deprives those same people of the opportunity to utilize their land resource.

To summarize briefly, as you consider potential wetlands legislation and work and have any interaction with the Administration on their efforts, we urge you to pay keen attention to these particular features of Alaska's wetlands: that the existing expansive regulatory definitions render almost half of Alaska subject to a regulatory Federal program; that most of these so-called wetlands have very low functional and very low wildlife habitat values; that they are not comparable to what we normally think about in this effort; that the pervasive nature of the wetlands programs has made the Corps and EPA de facto local zoning authorities for many communities in Alaska; and, lastly, that the broad extent of this regulatory coverage already adversely affects community development and other prudent resource development activities. If the program reforms are not carefully construed, the adverse effects can only get worse.

Thank you, Mr. Chairman.

Mr. NOWAK. Thank you very much.

Mr. Herrera, would you like to present your testimony?

Mr. HERRERA. Thank you, Mr. Chairman and members of the committee. My name is Roger Herrera. I suppose I have spent the last three decades working in the Arctic and am therefore perceived as somewhat of an expert in that area. My remarks today are going to address the problems with no net loss and the 404 process in Arctic Alaska in particular.

In my written testimony, Mr. Chairman, I dwelt on a couple of examples of the 404 process which have affected the development of oil accumulations on the North Slope—and the value of those accumulations are well known to you. They represent 25 percent of our domestic oil production in this country today.

What those examples really showed was the razor's-edge type balance which the 404 process has imposed with regard to environmental protection versus rational development in the Arctic.

The fact that in both the examples I quote the permits were eventually issued suggests that to some extent the 404 process is actually working. However, the Arctic, in some respects, illustrates the peculiar nature of the wetlands problem in Alaska. Rather than spend a lot of words describing that, it is best exemplified by the photomosaic which I think you have in front of you.

Basically, what that photograph shows is the area around Prudhoe Bay which contains about 25 percent of our domestic produced oil. Even to the non-initiated, those that are totally oblivious of 404 rules and regulations, I think any person would recognize that the photograph represents total wetlands. They would be correct in that assumption. The area is covered with lakes and is clearly extraordinarily wet, despite the ironic fact that it is officially a desert.

The point I want to make, though, is that if this photomosaic was taken in a further strip to the left of the present photograph you have, before you ran out of wetlands that mosaic would be a further 14 feet long. In essence, it would look identical to the picture you have in front of you.

If it was taken to the right of the photograph it would be a further 5.5 feet before it reached the Canadian border, and again it would look virtually identical to the portion you have in front of you.

In depth, as you go southward, you would probably have a photomosaic which would be anything from two to six feet deep.

This gives you some idea of the nature and size of the wetlands on the North Slope of Alaska. When you consider that you are looking at the development that exists on the North Slope of Alaska, which is so valuable to the Nation with regard to produced oil, you begin to get some perspective of the impact of oil development on wetlands in Alaska and the nature of the wetlands problem in Alaska.

Of course, there is not a wetlands problem in Alaska; therefore, one must ask if Alaska is perceived to be part of the solution. Even the Forum—and I don't want to criticize the Forum study, which was a good starting point and well worthwhile—even the Forum did not include Alaska in the problem. There was no recognition of the 170 million acres of undisturbed wetlands in Alaska when they outlined the problem, and yet they perceived it necessary to include Alaska in the solution.

Might I suggest that the 10,000 acres of wetlands which is covered up by gravel shown in the photograph in front of you, has given rise to the beneficial oil production. If all that gravel was taken up and the wetlands were reverted back to their original state, it would have absolutely zero impact on wildlife and on the wetlands problem, in general. In fact, if you took up the 80,000 acres of wetlands which have been utilized by man in the whole of Alaska, you would be no further to a solution to the wetlands problem in the lower 48 than we are today with that 80,000 acres being utilized.

I don't want to indicate that Alaska should be treated differently. We are part of the Nation and are proud of that. On the other hand, there is clearly a case that it should be treated differently.

I don't want to indicate that 404 is not working in Alaska because, as I mentioned in my written testimony, it can be argued that it is working very well. But the reason Alaskans came off the wall when the MOA was issued—at least in its original form in November—was that the tightening of the screws that that MOA was perceived to represent would, as Mr. Silver mentioned, have brought oil development in Alaska and certainly development for future oil resources on the North Slope to a grinding halt. That is the nature of the delicate balance that development versus wetlands protection is in in the State of Alaska today.

Therefore, I think any solution to wetlands—and I think we all recognize that the lower 48 wetlands problem requires a solution—has to be very carefully crafted not to result in overkill in the State of Alaska and bring the State to the verge of bankruptcy and to becoming a ward of the Federal Government, if you will, rather than benefitting the Nation with regard to its marine products, forestry products, oil, minerals, etc.

That delicate balance, which I think was discussed yesterday in your hearing, is epitomized by the problem in Alaska. One can't upset it without adversely affecting the State of Alaska without any benefit to the wetlands elsewhere.

Alaska's record of protection of wetlands is, I think, extremely good. The very fact that we have used so few, the very fact that we have produced so much oil from so few is indicative of that.

When you look at this photograph, something again by common sense, might be obvious to you. There is so much wetlands on the North Slope of Alaska, that one has to wonder why there is so much fuss about creating some graveled dry lands? Interestingly enough, animals tend to react in the same way as common sense.

We recently—"we" being independent scientists—recently carried out a study of the utilization of gravel pads, etc., which were no longer required for oil production on the North Slope of Alaska. Surprise, surprise. What do you think they found? They found that the wildlife utilizes those artificial gravel dry lands three times as much as they utilize the adjacent wetland tundra. And yet the Corps of Engineers and EPA are bound and determined that we rip up all those dry lands and recreate them as wetlands—probably a task which we are incapable of doing, certainly to the extent of reverting them back to their original state.

Finally, the Native population on the North Slope has realized consistently that dry lands are in short supply in Alaska, not wetlands. Their cry to the agencies has always been, "We like the gravel that is put there. It is beneficial, not adverse, so please don't destroy the created dry lands. They are the environment which is in short supply."

In closing, Mr. Chairman, I would like to comment on the suggestion that the State—of Alaska, in this case—perhaps should consider taking up the administration of 404. I think many people who responsibly develop in Alaska would favor that, although the State, for reasons of finance, probably doesn't favor it.

The reason we can say that the State would do a good job I think, is in the State's record. Not only is the State a partner in deciding how wetlands have been utilized to date, but, perhaps more importantly, we see the example of the coastal zone management responsibilities which have been given almost in totality to the State. Over the last several years the State of Alaska, in particular—and probably other coastal States also—has managed those responsibilities more than adequately. The record speaks for itself.

If the State can manage the wetlands in the coastal zone through the CZM Act, they can certainly manage equally responsibly the rest of their wetlands within the State of Alaska. The oil industry would favor that approach being looked at very seriously.

I have one last point, Mr. Chairman. The Domestic Policy Council is taking up the debate, if you will, on the consideration and study of the no net loss and the wetlands problem in the United States in the aftermath of the forum's recommendation. That's obviously a balanced group of people with all sorts of interests represented.

They will, no doubt—and they are intending to—involve the public in a major fashion in the debate; therefore, it would be our recommendation that this committee allows that process to continue to see what outcome that administrative process results in. If the Domestic Policy Council can come up with a solution, then the need for modifying legislation becomes less. I think we would all be more comfortable if the legislation was not opened up to the extent that we never know what is going to come out of it.

So those are my comments, Mr. Chairman. I appreciate this opportunity. Thank you.

Mr. NOWAK. Thank you very much.

I think you have all articulated the problems that you see coming with any new initiatives. In fact, the problems with the present program are also evident from your testimony and from others that we will be hearing from in the future.

In trying to make an adjustment of what is going out there—you've got Alaska, and we've also had some Maryland problems here—the coastal zone management plans were mentioned. I think Maryland also has moved forward with that plan.

I wonder if you could associate the 404 program and the wetlands problem and the identification of your "protected areas" now under your State management plans as it would relate to the possible changes in the wetlands and how we could achieve no net loss, if that's the goal.

Mr. JOHNSON. Of course, the problem that we have in Maryland, as I see it, is that the new way that the non-tidal wetlands are identified it brings us way inland. We're not even anywhere near tidal areas or marsh or bog or swampy areas at all. We're right in the middle of a cornfield with no water in sight several miles away, and now, with the new definition, this is now a non-tidal wetland simply because—and I wasn't going to say this, but the Governor and the Speaker and two Members of the House went to see Secretary Reilly, and it was very disappointing in that we had to explain to him what a non-tidal wetland was.

In my opinion, we are just dealing with areas—now, I'm not familiar with the soils in Alaska, but I know them in Maryland. I think, for most people, when I carry them and put them in the middle of a farm, nice corn growing, been a farm for 500 years, never been dredged, not been anywhere near these areas, and say, "Now you are in a wetland," they look at me like I'm crazy. But that is the actual happening out there today.

I don't know if I answered your question or not.

Mr. NOWAK. What I'd like to see is where your expansion of the wetlands is in terms of your State coastal program. Because of the Chesapeake, of course, you've got a very sensitive environment, too.

Let me turn to any member from Alaska to compare your own—you mentioned the success of the coastal zone management.

Mr. HERRERA. Mr. Chairman, if I might attempt to answer your question, Coastal zone management in Alaska is somewhat interesting because Alaska has 33,000 miles of coastland, so it is a lot of land to manage. Interestingly enough also, the coastal zone in some parts of Alaska goes inland 200 miles. So the adjudication of the State and the local governments of that huge area is pretty all-encompassing already.

They manage it very rigorously. The coastal zone management plans, which were formulated initially by the local governments and then approved by the State and, in turn, approved by the Federal Government, have worked very well and control development and generally introduce environmental protection in a highly responsible and successful fashion.

The State has veto over all actions in the coastal zone, and sometimes, when it is necessary, it uses that veto.

The State has no veto though, other than through CZM, over the 404 process. And there is no appeal to a 404 decision in Alaska—or anywhere, for that matter—by the local colonel.

So, to a large extent—for example, with the oil and gas matters, we have a colonel of the Corps of Engineers in Alaska determining the Nation's energy policy by this authority that he has through 404.

I think the approach of the State of the Alaska and local governments with regard to coastal zone management has been such that clearly it indicates their capability in all regards of adjudicating on wetlands, also, on 404 matters.

Mr. NOWAK. Thank you very much.

Mr. Stangeland?

Mr. STANGELAND. Thank you, Mr. Chairman.

Welcome, Mr. Johnson. Before I came to Congress I was just a country boy, and I consider myself still just a country boy, so you are welcome. We appreciate your being here and want to work with you. Your problem may be covered under the legislation that Mr. Alexander has introduced. As I understand it—and I may be wrong—hydric soils are those types of soils that if there is water present will produce wetland-type of vegetation.

Mr. JOHNSON. That's correct.

Mr. STANGELAND. We can recognize a severe problem.

I have a question for the Alaska delegation just in general. In developing your plans for Juneau and Anchorage and the State of Alaska, what kind of input and support do you have from the Alaskan environmental community in what your approach is to wetlands resolution—your classification of those wetlands that should never be developed, the conservation wetlands, the developable wetlands? What kind of support do you have from the environmental community in your approach to wetlands management?

Mr. SILVER. Mr. Chairman and Mr. Stangeland, thank you.

The development of the 1982 wetlands plan for Anchorage went through a rigorous and extensive public process before the municipal assembly. I was involved at the time in its development. There were a number of public hearings where all witnesses from any point of view were allowed to participate. There was effectively a public markup of the proposed plan which had been proposed by the municipal staff in which the Assembly members participated. The local colonel from the Corps of Engineers was there. The plan was essentially written during the assembly meeting process.

At the time that it was adopted, it had very uniform support. There was, as in any type of public process, a series of compromises which were reached to ensure that the balance of preservation lands versus conservation lands versus development lands satisfied or reached as large a consensus as possible. There has been no effort to amend or repeal that plan in the last eight years while it has been in place.

So I think that the public record on the plan has been well accepted in Anchorage and it has worked quite well. I am unaware of any major complaint with it.

Mr. **STANGELAND**. Mr. Campbell?

Mr. **CAMPBELL**. Thank you, sir.

In Juneau, as well, we went through an extensive public hearing process over several years, both in front of the Planning Commission, taking the hearings to every individual and neighborhood in Juneau, and then in front of the Municipal Assembly.

I believe that the plan, as we have drafted it, does have broad support.

What I have found extremely effective with those people who have concerns about the plan—concerns that it, for instance, does not protect Juneau's valuable wetlands—is to ask them to go for a ride with me. We ride out Douglas Highway, which is a highway that was plotted by the BLM, and we walk out on some of the lots which were plotted by the Bureau of Land Management, a Federal agency. People bought those lots from the Government a number of years ago. And then we look out over the Juneau wetlands from those lots. I think everybody—they say, "We want to protect these wetlands." We agree. We agree with them. That type of inter-tidal wetland we certainly want to protect.

But then what I point out to them and show them in the plan—which we have brought with us—is the actual lots that we are standing on, which I don't think by anybody's definition meet the term of wetlands, are classified by the Corps and by the EPA under their advanced identification as generally unsuitable for fill or construction. People who have bought and worked with a Federal agency to have a place to live all of the sudden cannot live there.

That type of demonstration has led, I think, to a general support for the plan.

Mr. **STANGELAND**. Mr. Herrera, I kind of read in your testimony that what you are saying basically is not to have mitigation for mitigation's sake, but mitigation that is beneficial to the enhancement of the environment and the habitat that is being destroyed or being changed in any development. Am I hearing that correctly?

Mr. **HERRERA**. Exactly. Yes. I'm not advocating that we create dry land deliberately in the wetlands on the North Slope; only when it is needed for rational development. But that development goes through so many protective measures by the local government, the State government, and then the Federal agencies, leaving aside what the permittee, himself, introduces in the way of protection, that it is, at the end, the best development that is humanly possible.

To then indulge in compensating mitigation beyond that—which is, in fact, beyond our capabilities on the North Slope. We cannot recreate wetlands up there—simply is a punitive measure which has no benefit to the wildlife or to anybody or anything.

Mr. **STANGELAND**. I gather that Juneau and Anchorage, the bottom line there is basically the environmental community understands and agrees with what your plans call for within a realm of reasonable compromises. I'm sure there are some voices out there still saying you are developing too much and hadn't ought to be doing it.

I would expect, Mr. Herrera, that you probably have more opposition for your activity on the North Slope from environmental groups than the others would. Would that be a correct assessment?

Mr. HERRERA. That certainly would. There are certain environmental groups that have one objective, and that is to create the North Slope as a major museum and man just looks at it from a distance apparently.

On the other hand, I can say with a degree of truth that the local residents of the North Slope Borough, the eskimo residents, and also the State of Alaska inevitably has, over the last ten years, approved the permits for development as being responsible. The only opposition we tend to get, other than opposition within the public process from some more extreme environmental groups, tends to be from the Corps of Engineers and the Environmental Protection Agency.

Mr. STANGELAND. Mr. Horn, am I correct that you were a former Assistant Secretary of Interior?

Mr. HORN. Yes, sir.

Mr. STANGELAND. Just one question: in your organization, does your organization encompass environmental groups? Or is it more an industry/environmental organization?

Mr. HORN. Right now it is dominantly consisting of communities of the North Slope Borough that Mr. Herrera referred to; the municipality of Anchorage is a member; various Native corporations, both village corporations and regional corporations—the Calista, which is the Yupik Eskimo Corporation for Western Alaska—are members; and then various resource companies. At this point, none of the environmental organizations have seen fit to join.

Mr. STANGELAND. I gather from your testimony that the theme basically is that because of your unique circumstances and because you really make no great contribution to the lower 48 you should be exempt from the no net policy, as a whole. Are you saying that we ought to just let Alaska do what Alaska is doing by way of preservation of wetlands without bringing you into the whole scheme of a Federal no net loss program?

Mr. HORN. I'm of the opinion that you can work and craft a no net loss program in such a way that it can apply to Alaska, but as long as you are cognizant of the particular circumstances that exist there: the fact that so few wetlands have been affected; the fact that mitigation is difficult, given the nature of these wet tundra soils; and you have to expressly recognize the low productivity factors attached to much of the wetlands.

As long as those factors are built in, a no net loss program can apply to Alaska without having major adverse affects on the State and its interests.

Mr. STANGELAND. Are we required then to perhaps redefine and follow somewhat the example of the municipalities in setting a grading scale of wetlands for Alaska, or perhaps permit a certain percent of lost acreage over a period of time? What is the growth rate of Alaska? You have a unique situation. You are up there so far removed that you kind of have a pristine wilderness all to yourself. What is the growth rate in the past and what is the growth potential in the future for pressure on development in a very limited area of development potential?

Mr. SILVER. Mr. Stangeland, I can't give you a specific number on growth. Alaska was affected, as Texas and Louisiana were, in a negative way by the oil pricing situation. It is starting to recover from that. I think growth last year was generally in the 4 to 5 percent range, but I don't have any figures. We could get something and supply it for the record.

But a no net loss policy generally—and specifically to your question—in those areas where there are growth possibilities, no net loss will affect very, very deeply.

I am going to hedge slightly but differ to some degree with Mr. Horn on the application of no net loss. I think no net loss as a mandatory acre-for-acre proposition cannot work in Alaska. I wouldn't want to mislead the committee to say, from a municipality's perspective, that yes you can do no net loss as long as you make these varieties of exceptions. We think no net loss as a specific proposition is very hard to accomplish in Alaska without creating the difficulties we have described. That does not mean we don't want to participate in a rational wetlands protection program. As you stated, we think we have one in the municipality of Anchorage that works very well. The question is: can something like that be expanded on a State-wide basis?

In representing the municipality, I think I can safely say the municipality thinks some special regime for Alaska is important to deal with its unique circumstances.

Mr. STANGELAND. Just one last question. Mr. Herrera, what do you see BP and other oil exploration companies doing to help the Federal Government conserve Alaskan wetlands? Is there anything that you could be doing that you haven't done? Do you see any way of somewhat ameliorating the negative response that you get to your attempt to explore and develop more oil resources?

Mr. HERRERA. Yes. There are lots of things which we have been doing over the years and they will continue to be more successful with time, Congressman. Most of those are aimed at reducing the footprint of our operations on the tundra, reducing the amount of wetlands, the amount of environment which we actually cover up and change, albeit it on a temporary basis.

Over the years, since we have been operating in the Arctic, we have probably reduced that footprint by half as a result of new technology and new understanding of the environmental factors, and so on.

As time goes on, I know that footprint will be reduced even more.

Perhaps more importantly than just reducing footprint of gravel, though, is an understanding which has grown up over the years as a result of lots of research up there on the value of various plant communities and animal populations and how one can moderate one's activities not to impact such populations either by rerouting a road or by curbing activities certain times of the year and generally building structures so, for example, caribou can walk underneath them without them constituting a barrier.

Those sort of improvements are ongoing and are orders of magnitude better now than when we first went up there 30 years ago.

The other thing that we are doing is experimenting—and we have been doing this now for 15-odd years and beginning to get a handle on it—experimenting with what one does with one's gravel structures after they are no longer utilized. Should one revegetate them and make them into dry land habitat which is useful because it is vegetated? How should one do that? Should one take the gravel away?

We have systematically been working on that for a long period of time as a way to improve the environment, and we are beginning to get a practical clue of how best to cope with those structures when eventually the oil runs out. So those are all positive factors which are in play.

Mr. STANGELAND. Thank you. I want to thank this panel very much and tell you and Mr. Johnson that whatever actions the Maryland Legislature takes or suggestions you might have as to how you approach the problem you have, we would appreciate that input, as well as the input from Alaska. Hopefully we can work something out that will be satisfactory to the goal of no net loss.

Thank you very much.

Mr. NOWAK. Thank you very much for attending. We will have——

Mr. GRANT. Mr. Chairman, can I ask a question——

Mr. NOWAK. Yes, sir.

Mr. GRANT [continuing]. Of Mr. Herrera?

Mr. NOWAK. We will—go ahead, Mr. Grant from Florida. And then, after the questioning by Mr. Grant, we will take a recess until 1:30.

Mr. Grant?

Mr. GRANT. I'll be brief.

Mr. Herrera, as a scientist would you subscribe to the belief that there could be different values assigned to different types of wetlands?

Mr. HERRERA. Most certainly.

Mr. GRANT. Would you explain how that could happen?

Mr. HERRERA. Well, you have to define what is most important to you. For example, bird-carrying capacity—waterbirds, in particular—could be assessed as the prime value, and therefore you could value wetlands according to their utilization by such birds.

You can do the same with various botanical plants.

This has been done in Northern Alaska by the Fish and Wildlife Service. The interesting thing is, though, while I think common sense, by just looking at the photographs, would suggest that this area of permafrost wetlands really doesn't have a very high value, especially when you count the populations that use it—they are very meager in total numbers, and there is more habitat than there are animals to utilize it. The interesting thing is that Fish and Wildlife Service, in its valuation of wetlands, has large parts of this North Slope area as category I, which is really so valuable as not to be considered for use; or category II, which says that you can use it, but only under sort of special circumstances, and so on.

The rationale for that is not based purely on the biological carrying capacity, as is the reasonable rationale, but based on the uniqueness of Alaska permafrost wetlands, forgetting that there are probably over 100 million acres of them and they are far less unique than wetlands in temperate zones.

So categorization is a tool which should be utilized. It has sort of been slightly abused though, I think.

Mr. **Grant**. So that there would be different values assigned for wetlands that are used for flood conveyance or flood storage or waterfowl growth or botanical growth? There should be, in your judgment, different values assigned.

How would you assess the no net loss policy? Would you interpret that to mean no net loss in terms of acreage or no net loss in terms of economic value, or no net loss in terms of ecological value? How would you think the best assessment might be accomplished?

Mr. **Herrera**. Of course, it has to be a balanced one. It has to consider the economic value of a wetland versus its biological value. So I would put all those factors that you mentioned into the equation. Unfortunately, agencies don't do that. They just put the habitat into the equation. You have covered up habitat; therefore, you have to create new habitat and thereby achieve no net loss.

Mr. **Grant**. Could Alaska live with a system that might be adjusted from the regulators accordingly, taking into consideration the kind of values that should be replaced assuming that wetlands carry different values?

Mr. **Herrera**. I think that is exactly the system that Alaska has practiced, which is probably why we have done such a good job to date and not covered up much wetland.

Mr. **Grant**. Mr. Horn, would that work okay?

Mr. **Horn**. I think that's the major step in the right direction. I think that whole idea of targeting the different functional and productivity values is not only important in the Alaskan context, but I think it is important from a national perspective so that—and right now the agencies treat a wetland as a wetland, whether or not it is something that is highly marginal, as the delegates talked about, or it is some tidal salt marsh that is producing ducks and fish and crabs. A wetland is a wetland under the current regulatory scheme, and some distinction needs to be made between and among the types of wetlands so that the agencies and the effort can be focused on preserving and conserving the high- value areas and not putting private landowners and others through the wringer on some of these low-value, low-productivity areas.

Mr. **Grant**. And you might hope that any legislation that would come from this Congress would either explicitly define those types of values or that we would specifically instruct regulators to do so.

Mr. **Horn**. I think any legislation would be well advised to chart that course.

Mr. **Grant**. That way we'd take care of the delegate's clay land depression as opposed to the river out there or something.

Thank you, Mr. Chairman.

Mr. **Nowak**. Thank you very much.

Mr. Cox from California?

Mr. **Cox**. No questions at this time, Mr. Chairman.

Mr. **Herrera**. Thank you very much.

[Mr. Silver's prepared statement appears on page 1190.]

[Mr. Campbell's and Mr. MacKinnon's prepared statement appears on page 1009.]

[Mr. Horn's prepared statement appears on page 1087.]

[Mr. Herrera's prepared statement appears on page 1042.]

Mr. NOWAK. As I announced, we will take a break. We will hold the record open for perhaps further questions as we develop other insights from other witnesses.

We will resume at 1:45.

[Whereupon, at 12:14 p.m., the subcommittee recessed, to reconvene at 1:45 p.m. the same day.]

AFTERNOON SESSION—2:03 P.M.

Mr. NOWAK. The subcommittee will come to order.

We will have our third panel present their testimony. The panel consists of: Mr. Ted R. Brown, Vice President and General Counsel, Arvida; Darlene Shelley, Vice President of Government and Environmental Affairs, Signal Landmark; Brian R. Holmes, Director of Regulatory Affairs, Connecticut Construction Industries Association; and Sanford B. Wanner, Vice Chair, Nationwide Public Projects Coalition.

Mr. Brown, thank you for your patience. I apologize for being a little late.

Please proceed.

We will incorporate all of your formal statements in the record.

TESTIMONY OF TED R. BROWN, VICE PRESIDENT AND GENERAL COUNSEL, ARVIDA, ACCOMPANIED BY ROGER HALL, CHAIRMAN, AND ALBERTO BEVERIDGE, COUNSEL; DARLENE SHELLEY, VICE PRESIDENT OF GOVERNMENTAL AND ENVIRONMENTAL AFFAIRS, SIGNAL LANDMARK; BRIAN R. HOLMES, DIRECTOR OF REGULATORY AFFAIRS, CONNECTICUT CONSTRUCTION INDUSTRIES ASSOCIATES; AND SANFORD B. WANNER, VICE CHAIR, NATIONWIDE PUBLIC PROJECTS COALITION

Mr. BROWN. Thank you, Mr. Chairman.

Mr. Chairman and members of the committee, I am appearing before you today in my capacity as vice president and general counsel of the Arvida Company. I am accompanied today by our chairman, Roger Hall, and by our outside counsel, Beveridge and Diamond.

Arvida is a community developer which has, over the last 30 years, developed in excess of 50 communities across the United States. Presently we have communities under development in Florida, Georgia, North Carolina, Texas, and California.

I can report to you that for the last nine months, wetlands, and, in particular, the 404 program, has been a most significant item on our development agenda. It has easily occupied approximately 65 percent of my time as I and our consultants attempt to steer the company through the maze that has become 404.

In coming before you today, I hope to be able to lower the tone of the rhetoric that tends to surround a discussion of these issues. I would hope to begin to change the perception that those of us who are in the development industry are necessarily opposed to the preservation and enhancement of the environment. Arvida has been historically, and we will continue to be, responsive to develop environmentally sensitive projects. We will continue to support legislation which regulates land development where that legislation can equitably balance the competing concerns of environmental protection and economic development.

I can report to you today and before this committee that we support the President's goal of no net loss of wetlands values.

Having said that, however, I think it is equally important to recognize that we are convinced, after significant experience, that the 404 permitting system is ill conceived to accomplish the President's goal. If we are to assume that the long-range goal of the 404 program is no only to maintain the existing inventory of wetlands functions and values, but is also to restore and enhance and create wetlands, then the present system is not, in our view, going to contribute to the solution.

It is also important to understand that implicit in our analysis is the assumption that the 404 program is not intended as a tool for growth management, that there is no hidden agenda which the Congress has not yet owned up to and which suggests that if you stop development you have, by definition, improved habitat values and wetlands functions.

We believe that effective and workable public policy is best served when the regulatory efforts are directed toward managing the process so as to permit planned development in a way which recognizes that environmental values are part of sound land planning. It seems simple, but I think it needs to be stated again and again: land development is not inherently antithetical to environmental values generally, and wetlands values specifically.

In saying that, I do not mean to suggest that there have not been examples of development which have unnecessarily sacrificed environmental values in the past. But I do mean to suggest to this committee and to promote the notion going forward that if the process can be made workable there will be an opportunity to encourage and obtain significant contribution from the private sector to assist in achieving the goal of no net loss. For that to occur, however, the existing system definitely needs adjustment.

As it stands presently, an applicant enters an arena where multiple agencies with overlapping, and, in some instances, conflicting agendas scrutinize your application. The process is almost always—and certainly in recent weeks—characterized by protracted interagency debates over what to do and how to do it. There is no mechanism in place to assure the timely, cost-effective processing of your application, and the structure assures that the process will be lengthy. We have applications that are still pending after 19 months and no end is in sight.

We believe it would be far superior if, in the review of this program, the full responsibility for the granting or denying of a 404 permit was placed with one agency. Other agencies surely could comment, but without any power to veto we think the likelihood of bringing rationality and accountability to the process will be materially enhanced.

What is required is predictability and accountability. The Government must be required to respond in a time-certain manner under predictable guidelines. Under the present system one cannot submit an application with any sense of when it will be acted upon or how.

You must understand in this regard—and I listened to the testimony yesterday—that the system that you think you have in Washington, D.C., is not the system which confronts the applicant at the regional level. At that level it can best be characterized as an adversarial system. It is not a forum for problem solving, but all too frequently it is characterized at best by arbitrary rulings, and at worst no decision at all.

Our company recognizes that the program is not designed, nor should it be, to give to the applicant or to the developer a carte blanche right to a permit. But certainly for it to work effectively the Government must approach the applicant with equanimity and with the view that we can mutually solve the problem of no net loss.

This problem has been further exacerbated in recent weeks by the MOA of February 7, 1990. Contrary to what is advertised by the EPA and by the Corps of Engineers, that MOA mandates a sequencing approach to mitigation which is rigidly adhered to in our experience at the various regions where our applications are pending.

What we have found in our process is that the concept of sequencing has become a rationalization for no further inquiry. What do I mean? Our experience has been that if the biological review team of the EPA does not feel, in its unfettered discretion, that the applicant has significantly or appropriately avoided impacts, you never reach the question of minimization, nor do you reach the question of compensatory mitigation. The result is that unless the applicant capitulates to the avoidance criteria, the process grinds to a halt, even if the project, taken as a whole, would improve the total value of wetlands ecosystem.

It is our conviction that if this process is to work, then the applicant's total proposal should be reviewed concurrently so that the impact of the applicant's proposal can be gauged in its totality rather than piecemeal. To do otherwise results in a review of a Government hybrid of the applicant's proposal rather than the one submitted by the applicant.

Given the constraints of sequencing, we have actually found that admittedly improved ecological solutions to wetlands mitigation must be ignored in order to pay homage to avoidance.

We believe that if we are going to be serious about enhancement, restoration, and creation of wetlands values, then you have to do more than avoid. You have to develop an organizational and operational characteristic within the 404 program that recognizes mitigation as a means to resolve the conflict between development and strict preservation.

Essential to mitigation's role in no net loss is the notion that not all wetlands are of equal value to the ecosystem. We believe that guidelines classifying wetlands by category and type need to be developed and that Congress should definitely address this issue. This would allow the applicant to undertake his land plan knowing at the front door which wetlands must be avoided and which wetlands can be utilized in development provided appropriate compensatory mitigation is undertaken.

What is appropriate in a given case should depend on the value of the wetlands. Obviously wetlands of pristine or highest quality may not be developable. On the other hand, wetlands of low- or mid-range quality would be developable with appropriate mitigation based on qualitative as opposed to quantitative concerns, the functional values lost by filling to be compared to what is placed through mitigation.

To further augment this process we believe the Government and the private sector can and should create large mitigation banks. We should be able to assist in this endeavor by contributions of cash, acreage, or both as credits for land to be filled. Such a system is analogous to impact fees imposed now by some State and local governments. While no one in this industry thinks such fees are always equitable, they have, nonetheless, provided a method for infrastructure funding that has served the public interest.

From all that we can learn, regional mitigation banks are a preferred solution to small, isolated wetlands. Further, this concept provides a mechanism for compensating an owner for property lost and avoids what is almost surely to be an era of increased litigation over the takings issue.

For our part, our company stands ready to commit significant resources to be a full participant in the goal of no net loss. But to do so we must be permitted to utilize our resources, to develop and sell real estate at a reasonable price and under reasonable market conditions.

If the goal of this policy is to enhance, restore, and create wetlands so as to reach the goal of no net loss from a benchmark which has been established, then enhanced creativity at the permitting level must recognize that drawing a line in the sand will not get the job done.

What is needed is a system that is at the outset predictable, that you can navigate through in a timely and cost-effective way. It must be fair and recognize that there are economic and societal values which have a bona fide place on the American agenda and that those components can and must be integrated into the system if we are to have a hope of achieving the goal.

We believe that it can be done, but it will require a rethinking of the process and a willingness to look beyond the shrillness of the rhetoric that characterizes these kinds of pursuits all too frequently. It will require a willingness to restrike the balance. For our part, we are eager to be a part of the process and a part of the solution. We simply ask for the opportunity.

Finally, Mr. Chairman, as you have already noted, we would ask that our more lengthy remarks be made part of the record.

We will be happy to respond to any questions at the appropriate time.

Thank you for your attention.

Mr. NOWAK. Thank you very much, Mr. Brown. I think you have stated the overall case very well. I am happy to see the willingness to move forward with this type of program that can satisfy both of these—what are termed by some—competing kinds of requests out there.

I'll have to adjourn now for a vote and then we'll come back to take the rest of the testimony. We'll have to stand in recess for ten minutes, and then we'll continue right through with the rest of the panel.

We stand in recess.

[Recess.]

Mr. **Nowak**. The subcommittee will come to order.

We will continue on with our testimony, and we will now hear from Darlene Shelley, who is the Vice President of Government and Environmental Affairs, Signal Landmark Corporation.

Ms. **Shelley**. Thank you, Mr. Chairman. I appreciate the opportunity to testify today.

Signal Landmark is a national real estate developer, but we have primary emphasis in California. We have implemented a large number of complex development projects throughout the country, and we have gained considerable experience with the section 404 permitting process. Several of our projects have included successful restoration components.

My comments today are not intended to reflect upon any ongoing permitting matters, but are based generally on our experience working with the section 404 program.

Signal firmly believes in the goal of no net loss of wetland values. We are committed to working with the Federal, State, and local agencies to achieve this objective. However, many aspects of the present regulatory structure actually impede the success of wetlands protection efforts.

My testimony focuses on four major issues that have grown increasingly troublesome in recent years.

First, the 404 jurisdiction has expanded considerably, creating increased conflicts between the Federal permitting processes and local land use decisions.

Second, the requirement contained in the practicable alternatives test to avoid any development in wetlands regardless of the wetlands values or functions affected encourages a net loss of wetlands.

Third, mitigation requirements are often established in an arbitrary and inflexible manner without adequate consideration to wetland values.

Fourth, the permitting program is unpredictable, time consuming, and increasingly adversarial. This results in an inefficient use of resources an increased cost to both the private and public sectors.

Fundamental changes to the section 404 program are necessary if the Nation hopes to achieve the goal of no net loss of wetlands. The permitting process should be modified to increase flexibility, reduce uncertainty, and integrate the Federal and local decisionmaking regarding wetlands.

The extension of section 404 jurisdiction to areas that are essentially dry land has placed the Federal Government in the midst of traditionally local land use planning decisions. Unfortunately, section 404 permitting process is not integrated with local land use decisions.

A substantial portion of our Nation's wetlands have been significantly altered by human activity and currently exist in a degraded, unproductive condition.

Differences in wetland values should be taken into account in the permitting process so that the avoidance of any wetlands impacts is no longer the sole guiding principal in all cases.

Section 404(b)(1) guidelines should be modified to eliminate the water dependency component of the practicable alternatives test except at locations immediately adjacent to traditional navigable waters.

Limited development in areas containing low-quality, degraded wetlands will result in net environmental improvements through wetland restoration conducted as compensatory mitigation.

The section 404 program should encourage mitigation banking as an important tool to promote the goal of no net loss of wetlands.

The 404 program should be streamlined at all levels. There should be a single Federal process designed to address the concerns of all Federal agencies simultaneously at the earliest possible time.

The creation of a unified section 404 program would require that EPA be brought into the permitting process at the earliest time as an active participant.

From the perspective of the regulated community, it is totally unacceptable for EPA to engage in last-minute reviews of permit applications—particularly once all State and local approvals have been obtained and the Corps has determined that a project would comply with the section 404(b)(1) guidelines.

We believe Congress should require Federal agencies to coordinate the permit review under section 404 with land use decisionmaking by State and local agencies.

We also would ask that Congress encourage State and local agencies to assume primary responsibility for wetlands protection.

Signal Landmark remains committed to developing environmentally sensitive projects that will result in a net gain of wetland values and overall improvement in environmental quality. We encourage the cooperation of Congress and the Federal agencies administering section 404 in pursuing these objectives.

Thank you, again.

Mr. NOWAK. Thank you very much.

We will go through all of the testimony. I now turn to Mr. Brian Holmes who is the Director of Regulatory Affairs, Connecticut Construction Industries Association.

Mr. Holmes?

Mr. HOLMES. Thank you, Mr. Chairman and members of the committee.

I also represent the American Road and Transportation Builders Association, which represents the transportation construction industry, as well as State and local transportation officials, engineering educators and consultants, and the construction equipment manufacturers.

I also speak as a supporter and participant in the efforts of the National Public Projects Coalition, whose vice chairman will address you shortly.

To briefly summarize my testimony, I am here to express the concerns of our membership about the failure of the NEPA process, the failure of the 404 process, and how the memorandum of agreement recently concluded between the Corps of Engineers and EPA represents a step in the wrong direction.

For public works infrastructure construction projects, such as the Federal Aid highway projects, some of which are pictured on these walls, the wetlands permit process starts with the National Environmental Policy Act. This is a planning procedure. It requires a full exploration and evaluation, with opportunity to comment, of a project's purpose and need, of the alternatives to it, and of the mitigation that is proposed for it.

It is a great system, except that it isn't working. It fails to work because the wetlands agencies—specifically the Corps of Engineers and EPA—do not adequately participate in it, preferring to hang back until the 404 process.

Unfortunately, agencies such as the Federal Highway Administration and the State and local governments which are building these projects, start to act on the basis of the completion of NEPA. These actions include spending money for the design of projects, and even include, in some cases, the acquisition of right of way.

In the 404 process, the Corps of Engineers claims the power to ignore the project purpose that guided the NEPA process to command a brand new alternatives analysis. It has also been known to resurrect an alternative that was discarded in the NEPA process in order to defeat a project.

The memorandum of agreement recently concluded between EPA and the Corps of Engineers is a step in the wrong direction because, one, it sets out a sequencing requirement which is contrary both to NEPA regulations, as well as existing Corps regulations. Second, to the extent that it interprets the guidelines, it has fabricated out of whole cloth a requirement for compensatory mitigation, much less such embellishments of in-kind versus out-of-kind, on-site versus off-site, and replacement ratios. If you read the 404(b)(1) guidelines, you will simply find no requirement for compensatory mitigation.

In conclusion, the needs of people such as for safe and efficient transportation infrastructure systems, are being unnecessarily sacrificed, not to the environment, but to a dysfunctional regulatory system.

All of this seems abstract talking about it here, but it has real-life consequences such as when unsafe road conditions create personal misfortune, if not tragedy, for the victims of traffic accidents.

Thank you.

Mr. NOWAK. Thank you very much.

We will now hear from Mr. Sanford B. Wanner, who is the Vice Chair, Nationwide Public Projects Coalition.

Mr. WANNER. Good afternoon, Mr. Chairman and members of the subcommittee. I am Sanford Wanner of Williamsburg, Virginia. I appear before you today in my capacity of vice chairman of the Nationwide Public Projects Coalition.

The Coalition is an organization whose members are almost entirely from the public sector. They are principally elected officials and career public service executives and managers. All of them have responsibilities entrusted to them by the same voters who elect Senators and Representatives for planning, financing, and building public infrastructure projects which are needed for a variety of human needs.

The Coalition's major concern is an escalating inability in this Nation to bring water supply and highway facilities on line because of what we perceive to be regulatory abuse in several Federal agencies. As the name implies, our membership is nationwide. Fortunately, it is also growing because the problem is growing.

The Coalition came together last summer out of a sense of frustration with a variety of regulatory abuses and a conviction that reform is absolutely necessary if basic needs of people are to be provided by State and local government. We are not specifically a wetlands concern organization, but right now wetlands issues are taking up most of our energies, simply because it is a major legislative and administrative topic in Washington and in the localities we serve.

Furthermore, it is obvious to our leadership just now that wetlands has become the impediment of choice among the environmental community soldiers of fortune who last week called a news conference to attack the President for exercising a degree of caution in addressing environmental policy changes.

I mention that news conference because it involves some of the same individuals whose names are listed in the final report of the National Wetlands Policy Forum.

Please do not misunderstand the previous comment. The report of the forum was, for the most part, a document in which the Coalition finds considerable merit—particularly in providing a baseline for discussion. We agree that truly valuable wetlands deserve protection; however, we also believe wetlands policy managers must be regulated to balance wetlands values with other needs of people—especially adequate public water supply and mobility infrastructure.

We need water to live and grow. Much of that water simply must come from reservoirs. Unfortunately, you cannot build reservoirs without affecting wetlands. But EPA does not consider this to be a cognizable use, even though reservoirs create wetlands.

The problems we see lie not in the forum report but in what zealous Federal regulators can do with it. We have a very recent example of how this almost inevitably works. I refer to the wetlands mitigation policy memorandum of agreement between the Environmental Protection Agency and the U.S. Army Corps of Engineers which became effective on February 7. It was depicted, particularly by EPA, as nothing more than a statement of policies which are already being used in parts of the Nation. But the original draft made wetlands mitigation more difficult to achieve than has been the case under current law and policy and applied by the Corps of Engineers and moreover represented rule making without the usual opportunities for public input.

Despite the lack of proper process, there was sufficient protest from around the Nation that the White House, the Environmental Protection Agency and the Army were obliged to come forth with a revised MOA.

Some of the more high-handed aspects were modified, but the new MOA still represents a potent new weapon for those who will use it to delay, if not stop, nearly every major water storage supply project nationally and new highway right of way in the Eastern United States and Alaska.

Our Coalition believes if a balancing process is not mandated by Congress, by the White House, or by the courts in the evolving wetlands policy, the result will be more oppression rather than effective protection for our wetlands resources.

Please remember that our constituents at the local level are your constituents, and ultimately they pay for both sides of this altogether too adversarial system.

Thank you for the opportunity to appear before you.

Mr. Nowak. Thank you very much.

We now have had a couple of days of hearings. In looking at the areas that hopefully we can start to proceed to make this a better functioning process, it seems to me we still have quite a divided perception of what that MOA really is going to do.

EPA believes it is not substantive at all and that you have been working with the same basic language and structure, and yet I suppose it is a little new to try to compare what happened before to what will happen now since that MOA has been out. But I think that is one of the areas that we would be interested in as you start to get experience and see what is reaction actually in the application of that language as your applications are proceeding through the process.

Mr. Brown, I wanted to ask—you had talked about a 19-month delay. From what time? Is that time of application or notification or after a review?

Mr. Brown. Mr. Chairman, that reflects a period of time from the time of application until now. In recent weeks we have had increased meetings with representatives of the EPA. I'm always reluctant in this position to put myself in that camp called bureaucrat bashers, but we have heard a little bit of that here.

Just to focus for a minute on the question that you asked about the MOA, I would be pleased to bring my applications to the gentleman from the EPA and the Corps that testified yesterday and let them apply the MOA to my application as they described it to you. However, that is not the way it is applied at the level where each of us have to interface with this system in the various regions at the staff level. I think that's the point that the gentleman here and the lady testifying were trying to make.

That level is where you run into the problem of arbitrariness and agendas that are separate and unique from the policies that you may be thinking you are implementing at this particular point in Washington.

Mr. Nowak. This question came up even in definition of wetlands last year. We tried to get that definition applied because everybody raised the same questions last year to the predictability, the constant kind of application not only between here and the districts, but between the districts, themselves. As you start to participate, I would imagine if you had a very strong-willed individual in one area you might get a different interpretation of at least analyzing the project as it came before, and mitigation therefore would be vastly different.

You have been in different areas.

Mr. Brown. Yes, sir.

Mr. Nowak. Do you find that there is that difference between the EPA, Corps, and the other Fish and Wildlife people you have to deal with on these questions?

Mr. Brown. I would say that the two areas I have some familiarity with are the 9th region and the 4th. In the 4th our experience with the Corps has been very good. They have been flexible. They have certainly held our feet to the fire, but we have been able to reach generalized agreement with them.

However, given the resurgence of the EPA and their intrusion into this process now, the EPA, in our experience, is really the guiding hand that is calling the shot. As a result of that, the Corps is either unwilling or politically unable to make the kinds of decisions that they are called upon to make, which is to issue the permit or not issue it.

We are caught in a process where we are constantly trying to massage the process along.

I can give you a specific example to sort of illustrate the kind of thing I am talking about. We have a project in Florida which is a 10,000 acre community, which is about more than two-thirds complete today. As throughout its history since 1972, it has been identified by the Corps as non-jurisdictional, but got determined to be jurisdictional approximately a year and a half to two years ago, which is one of the 19-month permits I am referring to.

As a part of that process, the EPA suggested that we have the Corps do a wet analysis, for which they summoned their experts from Vicksburg, Mississippi, to tour the project and do the kinds of environmental surveys that one would do. That report came back and confirmed the information which we had provided to the EPA and Corps, and that is that the wetlands that would be impacted were of low value to moderate value, at best. The only high-rated category was an archeological site which was an Indian mound which creates no problems for us to work around. In fact, we created a park around one that was on another part of the property.

Interestingly enough, I can report to you that in conversations with the EPA, the young field biologist looked me right in the eye and said, "I just want to tell you we don't agree with the Corps' wet analysis. We think they erred; therefore, we are not going to pay any attention to it."

I looked at him and said, "Well, where does that leave me? You've gone out and gotten your experts to do a study. They have confirmed what we have been telling you. We have brought you a plan of mitigation which more than offsets, according to all of the expert testimony in front of you, the functional values lost for the values that we would be willing to create, and yet we can't seem to move the process forward."

Again, I don't want to overstate that, but I do think it is important for you to understand that this is what faces people in the field at this level that have to deal with this.

In California we presented a project which was admitted by the field biologist of the EPA, our own biologist there, that, if implemented, would produce a superior environmental system than if it was totally avoided. But—and I can't quote it exactly, but it is close—given the constraints of the MOA and our feeling that avoidance is the paramount criteria that we must look to, we are unwilling to move forward because we do think you could avoid more.

Now, if, in fact, we are correct and they are correct that we would be producing a superior environmental system if we went ahead with the planned golf course and the mitigation programs that were ancillary to that, then I'm at a total loss to understand how it is we will ever achieve no net loss and enhanced wetlands functions and values if we don't have the opportunity to proceed in that kind of a venue and don't get hung up on avoidance criteria as the only mechanism by which to gauge the efficacy of a plan.

Mr. **Nowak**. Was there agreement in that case that you would be enhancing that water function?

Mr. **Brown**. Yes, sir. That is—I was personally not present at that, but I spent an inordinate amount of time reviewing that with our own consultants that were there. I'm going to California tomorrow to continue that process. I would want to represent that to you, and if I am incorrect in that I'll be glad to correct the record for you, but that is my understanding.

Mr. **Nowak**. In terms of both quantity and quality? You haven't got that detail?

Mr. **Brown**. I'm not going to say quantity. We are and continue to be persuaded that a one-for-one on a pure acreage basis is not the way for the Government to go or the way that is a rational way to proceed. We're talking about on a functional equivalent value of wetlands--what is being degraded being low, what is being replaced being high. Even in Atlanta, for example, they recognize that some 200 acres of land that we were preparing to acquire outside of our project and turn into a pristine wetland was deserving of 2.5 to 3 acres of credit for every acre that we would fill. That's the way the process ought to begin to work. You ought to begin to look at those kinds of functional value relationships if you are going to accomplish the objective.

Mr. **Nowak**. Have others on the panel had any experience like that where the trade-in was at least equal or higher than the——

Ms. **Shelley**. Mr. Chairman, I had applied for a nationwide permit for riparian habitat in California. A nationwide permit normally takes 30 days; it took me 18 months. My mitigation requirements on a riparian area that was marginal, at best, were almost three-to-one acres in compensatory mitigation. Again, it took me 18 months just to get the three-to-one mitigation.

Mr. **Holmes**. The Federal Highway Administration in its regulations stipulates that for private wetlands that are impacted by Federal Aid highway projects the FHWA will pay the State for a maximum of one-to-one replacement. EPA region one has a policy of requiring a minimum of one-to-one replacement on an acre basis and on a function and value basis. The result is that the authority that is building the project has to make up the difference out of local funds.

Mr. **Wanner**. Mr. Chairman, I have the dubious distinction of being the project manager for the first major public water supply project vetoed under 404(C) and we are in litigation. But I do need to tell you that we offered the mitigation. We also offered preservation and other techniques to compensate for unavoidable losses. I really work in the County of James City where Jamestown was founded. We were informed that we should have been preserving wetlands in 1607. So you can see it is a rather adversarial process, even when you try to make your best offer.

Mr. NOWAK. In the process that you are going through, do you have the opportunity to talk to environmental interests that are out there while you are going through the process with the Corps or EPA? Is there contact either because of the hearing or do you make private contact to try to settle and get some type of community consensus as you go through?

Mr. WANNER. Yes, sir. In our project, not only through the public hearing processes, which are required through the hearings on the EIS and then through the hearings on the veto determination, but we also had other conversations with other environmental groups and agencies, both public and private, particularly as it dealt with some of our innovative preservation work. So we had, as I think you said earlier this morning, some buy-in by some, and, of course, some you just never are going to please. But we did have dialogue.

Mr. BROWN. I would say, on behalf of our company, that in the main our applications do not generate the interest of the environmental community to the point that they would become typically actively involved. I would also say that for anyone who was generally familiar with our company and what we have done and who chose to look at it that we would probably get very high marks for our efforts even before it was fashionable to do it.

Having said that, I would also report to you that certainly as we go forward from this point one of our tasks will be to engage the environmental community to find where the common ground is. I am persuaded that there is a great deal of common ground between the private development industry and the environmental agenda if that can be explored in a rational and deliberative way.

Mr. NOWAK. As you deal with communities, too, and your Planning Department is going through a 10,000-acre planned unit development, I would assume that a portion of your time is spent with local officials in dedication of parks, creation of lakes, and creation of other habitat that may be natural to the communities you are in that it really adds to the value of your whole development. As you go through building a golf course you are going to build a lake and you are going to build all the other——

Mr. BROWN. Let me put that in——

Mr. NOWAK [continuing]. Requirements of that "living." You mentioned Florida. I would assume that has been done. I'm wondering if part and parcel of that process could not be that making—one of the things we have got to do is bring to the attention of a wider-base population the no net loss policy—not only the policy, but the reasoning for it. It is not there yet. The President has mentioned it, and I daresay when people talk about it their first reaction is that it is a good idea, but then we start to split off.

I'm wondering, as you go through those kinds of processes, if a joinder at that stage would lead to a better type of progress with the Corps and with EPA in obtaining some satisfaction.

Mr. BROWN. There is no question about that. In the particular project in Florida you are talking about, to sort of give you a perspective, our permit application is for 1,652 acres. Of that 1,652 acres, when we are finished we will have 750 net developable acres.

The remainder of that land, approximately 900 acres, is taken up in lakes, literal shelves, open spaces, roads, school sites, fire engine sites—public purpose kinds of uses, if you will.

One of the things that I thinks gets lost in the equation when you are dealing with the EPA at the staff level is that there really is not much of an understanding of this industry and how the economics of it work because the solution that has been proposed is to take 500 additional acres out of our net of 700 and turn that into wetlands. We did a rough calculation of the cost of that, and that's about $25 million. And then I'm supposed to have an affordable housing component, as well, on the remaining 200 acres. It just doesn't take a rocket scientist to figure out that it doesn't work very well.

I don't want to get shrill myself, but you can sense that we do have some level of frustration at this table as to how we are being managed in this process.

Mr. NOWAK. Thank you very much.

Mr. Stangeland?

Mr. STANGELAND. Thank you, Mr. Chairman.

You recite very well, Mr. Brown, when you state that, based on what you heard yesterday, you would have liked to have negotiated with the two gentleman testifying, but the translation as it gets down to the field is totally different. I think we find that frustration in a lot of Federal programs where we pass a law and we get rules and regulations and we think we intended one thing, and we think the rule is intended to do one thing, but the interpretation of the rule in the field or the inflexibility of the application in the field just isn't there because that civil servant out there just can't be flexible or chooses not to be or chooses not to be of assistance. That's frustrating and it is difficult to know how we get around that because somehow or other I guess we, the Congress, have to be more clear in our intent and the regulator or the policy-maker certainly has to be more clear in what those regulations mean to the person administering and dealing with you in the field.

I have heard a whole host of horror stories in other areas similar to what you are telling us here. It is difficult.

You mentioned something in your testimony about having just one permitting authority without any other agency having the right to veto. I'm wondering how you'd feel if we made EPA that permitting authority.

Mr. BROWN. I was wondering if anybody heard me say that. Quite honestly, I think the EPA is probably the logical authority to do it. My sense is—and I'm just basing it on 20 years of just personal experience at the State and local level—I think when people have the total and ultimate responsibility that they do tend to get more rational about it, and particularly the people at the leadership roles in those various regions.

Now, am I guessing right on that? I don't know. But my sense is that the system now tends to feed upon itself and, as a result, if one person sort of concedes a little something over here to make the process work he gets a little shouted down over there and as a result there is tension and it doesn't move the process along in a productive way.

I may be wrong about that, but I guess our instinct is that one agency would be preferred over this sort of multi-headed hydra we face now.

Mr. **STANGELAND**. I believe I heard you—and I'd like to have maybe all of you comment on it—I believe I heard you say something that in the future, while your developments haven't attracted much environmental concern from the environmental community, per se, that you thought you might be working more closely with them in the future. A comment from all of you as to where you go in the future—if we are going to define the functional value of a wetland, you are going to leave room for a great deal of disagreement. What one group may say is a functional value and place it high, another group may poo poo that and say it isn't that high but is way down here.

Is there a way, through negotiation or definition, for us to determine functional values and categorize them? Or does that have to be left up to a local negotiating process between the interested party in development and the concerned party on behalf of the environment to come to an agreement as to what a functional wetland is, how much it takes to mitigate the loss of that wetland. Do you care to comment on that process further than what you have done already?

Mr. **BROWN**. I don't mean to monopolize this, so if somebody else wants to talk, please do.

From what I can learn—and I am not a scientist—and observe in becoming somewhat informed about this subject, the science to assist in the determination of the various functional qualities of wetlands, while it is emerging, is nonetheless reasonably precise. In attending meetings, for example, of the Association of State Wetlands Managers you find innumerable papers being published now that deal with that precise subject matter.

I recognize that there is likely to be as much substantial disagreement over determining where those values are going to rest and that the impact of that determination is likely to be as egregious, if you don't like it, as it is just to characterize it as a wetland generally.

But I think our sense is that if you commit yourself to the idea that we need to deal with this on a functional value basis that you are more likely to get an equitable resolution of that that allows the process to work.

I think nobody at this table that I am aware of, and certainly speaking for our company, we have no intention of building in the Everglades. The problem is that the process assumes that is what we're doing. When you get a wet report, for example, that acknowledges from the technical people at the Corps that this is a "low-value wetland," which means it has low habitat value, it has low recharge value, it has low everything, and yet that is ignored, that is a frustration.

So I don't mean to suggest for a minute that there will not be stresses in the system if you adopt that approach, but I think over the long term it will serve the long-range public interest better to go at it in that vernacular.

Mr. **STANGELAND**. Something else we might want to think about in this discussion—and I would hope that perhaps the environmental groups, when they address us next week, may want to address it, as well: When we talk of no net loss is we are talking quantity or quality? There could be a difference. A no net loss in quality could mean maybe not as many acres of wetlands, but better-quality wetlands. Or do we mean no net loss in overall volume and increase the amount of volume we have, whether it is high- or low-grade. That's something I think we ought to probably start discussing if we are going to come to a policy of no net loss, but in my mind I'm not sure if it is no net loss in quantity or quality. That's something we ought to address.

As far as the memorandum of agreement, I wasn't able to be in the hearing yesterday, but we had discussed that in the Investigation and Oversight Subcommittee here. I like the buzz word in there of flexibility, but I'm not sure if that flexibility will be carried out. I know there are groups that think flexibility means loopholes. I don't see flexibility as loopholes; I see it as working out these kinds of problems of mitigation, quality of wetland, volume and quality wetland, and so on.

I think you, Mr. Wanner, said that the problem lies not in the document, but in what zealous Federal regulators can do with it. I share that concern. I think it is the Congress' responsibility to take a look, because I think that report of the National Wetlands Policy Forum was a good beginning point. I think we can work on it from there and probably improve it, go beyond it, but do it in a discussion here in this policy-making forum, at least, and hopefully some support downtown from their policy-making perspectives. That's kind of what these hearings are designed, in our estimation, to do.

I want to thank you for your testimony.

Mr. NOWAK. Well, let me thank you for taking the time from California development to Florida development to come before the committee. I think this process will affect not only your companies, but everybody else in the country in one way or another. We've got to try to strike a balance, and hopefully we can have you available if we have other questions that do come up as we go through the testimony in more detail and hear other witnesses that present perhaps different perspectives.

Thank you very much for attending.

[Mr. Brown's prepared statement appears on page 960.]

[Ms. Shelly's prepared statement appears on page 1165.]

[Mr. Holmes' prepared statement appears on page 1083.]

[Mr. Wanner's prepared statement appears on page 1197.]

Mr. NOWAK. We would now like to welcome our fourth panel of the day, which is a rather large panel. I hope there are enough seats up there.

We will hear first from Mr. Mark A. Maslyn, Assistant Director of National Affairs Division of the American Farm Bureau Federation. If you'd like to start your testimony, we'll go through the rest of the testimony as listed on the announcement sheet, and then we will try to solicit questions.

TESTIMONY OF MARK A. MASLYN, ASSISTANT DIRECTOR OF NATIONAL AFFAIRS DIVISION, AMERICAN FARM BUREAU FEDERATION

Mr. **Maslyn**. Thank you, Mr. Chairman.

On behalf of the Farm Bureau I appreciate this opportunity to be here today to address the topic of agriculture and wetlands protection.

I want to state at the outset that the Farm Bureau was a participant in the recent National Wetlands Policy Forum. Our members recognize the importance of preserving wetlands and the need to preserve those wetlands that are identified as valuable. We also recognize that not all wetlands possess the same value, and that public policy ought to recognize and balance those competing needs and economic forces.

In any discussion about wetlands protection it is helpful to remember that for much of our history wetlands have been viewed as a problem to be eliminated rather than as a resource to be protected. Only recently has it been recognized that wetlands provide a valuable benefit in their natural state. With that recognition has come a shift in public attitudes toward wetlands protection.

However, this changing public attitude that views wetlands as a public resource to be protected does not always mesh with the fact that most of these resources are on private lands. While many of the benefits of wetlands protection accrue to society, the cost and the regulatory burden are borne by the landowner.

As we examine the issue of wetlands protection, we would urge you to look closely at the need for updated information and data on the rate of wetlands loss and the source of those alterations. A great deal of old data is being referenced and cited in a way that could shift the focus from solving the real problem.

For example, an often-used figure on wetlands alteration is 400,000 to 500,000 acres per year, the source of which is a 1983 Fish and Wildlife Service report. Yet, it is our understanding that the data that was used in that report was collected in the 1950s and 1960s. Clearly that information is outdated, or at least should be considered suspect for the purposes of making policy decisions in 1990.

In contrast to the 1983 report, a 1984 study by the Office of Technology Assessment estimated the annual alteration to be about 275,000 acres. These are very significant discrepancies underscoring the need for current and reliable data.

It should also be noted that neither of these reports take into account the effect of the Swampbuster provisions in stemming wetlands alteration. That was a provision in the 1985 Farm Bill.

The Environmental Protection Agency conducted intensive reviews during 1989 of the effect of the Swampbuster regulations in seven counties. EPA's preliminary results show that in six out of the seven counties wetland conversion had either stopped altogether or had been greatly reduced.

The most immediate concern that agriculture has with the current regulatory program is the recently-adapted Wetlands Delineation Manual. This new effort at defining wetlands has resulted in significant amounts of new land being classified as wetlands. Often that land has been actively farmed for generations and is now subject to regulation under the 404 program. In part this is because the Delineation Manual states that if an area possesses hydric soils it considers it to be a wetland, even though it no longer contains the basic hydrology or hydrophidic vegetation.

We have a real problem with such assumptions.

What makes this particularly outrageous in the eyes of many farmers is that the regulatory sleight of hand was performed without any economic assessment, public review or comment, or compensation to the landowner.

We would urge that the manual be published for public comment and an economic impact study be completed.

In addition, we believe that agricultural land that has already been converted should be excluded from wetlands designation, much as the Congressman from Arkansas proposed this morning.

Agriculture is not the only entity adversely affected by the Delineation Manual. We have heard that State and local governments have seen construction and road projects halted and costs escalate. This underscores a clear need to inject some reason and balance into the debate over wetlands definition, delineation, and protection. In short, we think the current designation often reaches too far, is too expensive, and is indiscriminate. It treats all designated wetlands and alterations equally. The result is both over-regulation and under-protection and a severely diminished credibility among landowners.

Before I conclude I would like to comment briefly on the Wetlands Policy Forum. We were particularly encouraged that one of the major themes of the report was increasing the use of incentives, education, and information to private landowners. The Forum realized that regulatory programs, alone, would not halt wetlands alteration. Instead, it emphasized increased economic incentives to landowners such as wetlands reserves, easements, and cost-sharing for restoration.

Mixing a few carrots with the regulatory stick makes good sense and it should promote cooperation rather than confrontation.

Aside from the 404 program, the 1990 Farm Bill offers some promising opportunity for wetlands protection efforts and reform. We support the recent change in criteria for land enrollment in the CRP. Nearly 500,000 acres of wetlands have already been enrolled in the CRP, and we continue to support such efforts.

In addition, we believe the enrollment of filter strips around wetlands and sink holes should also be eligible for the CRP.

In closing, I would like to underscore the need to recognize that private property rights are a central issue in wetlands protection and a source of much of the conflict. We must reconcile the view held by some that wetlands are a public resource with the fact that they are most often on private property. Compensation, economic incentives, compatible uses, education, and information are all tools that should be more fully utilized.

We appreciate the opportunity, Mr. Chairman, and look forward to assisting this committee in any way possible.

Mr. NOWAK. Thank you very much.

We will now hear from Mr. Edwin Harvey.

TESTIMONY OF EDWIN G. HARVEY, ATTORNEY ON BEHALF OF NANCY McGOWAN, ALAN MOSELEY, AND RICK McGOWN

Mr. HARVEY. Thank you, Mr. Chairman and members of the committee.

A tape is going to be shown now before I speak, if I might defer my comments. Also, I ask that my statement previously submitted be accepted.

Mr. NOWAK. May I ask how long the tape is?

Mr. HARVEY. There are several tapes, but the first one involves Mr. Larry Gerbaz. The total running time of all the tapes that are present today I believe is 14 minutes.

[Videotape shown.]

Mr. HARVEY. Mr. Chairman and members, my name is Ed Harvey. I'm an attorney from St. Louis. I represent a number of the people who are here today. First of all, I do not represent Mr. Gerbaz, who is seated over to the right here. I do represent Mr. McGowan to my immediate right, Mr. Alan Moseley seated behind me to the left, and Fercom Aquaculture Corporation, whose representative, Ms. Nancy McGowan, is also seated at this table.

Since late 1984 my law firm has been representing litigants in connection with matters arising under section 404 of the Clean Water Act. We have observed, however, over the past 12 to 18 months, some very disturbing trends in the 404 program.

At least eight cases have been filed recently contesting the Corps' and EPA's new jurisdictional approach. It appears that the Corps and the EPA have now embarked upon a new mission, and that is to expand their section 404 role from the regulation of water pollution into regulating land use. As a result, cases have now sprung up all over the country where outraged landowners are seeking judicial intervention to declare the Corps' and EPA's attempted land grab policies invalid.

The Clean Water Act has not been substantively amended since 1977. The 1987 amendments took care of adding some administrative penalties, but did not address the substance of the Clean Water Act.

Back in 1977, when the Act was being debated, Senator Bentsen and the legislation's sponsor, Senator Muskie, stated—Senator Bentsen stated that section 404 had even then become "a symbol of many Americans of how a well-intentioned legislative initiative can turn into a quagmire of disruption, frustration, and bureaucratic entanglement for the ranchers, farmers, foresters, and average citizens of this country." He went on to state that: "Section 404 has become synonymous with Federal over-regulation, over-control, cumbersome bureaucratic procedures, and a general lack of realism."

In response to an inquiry by Senator Dole as to whether a section 404 permit would be required if two farmers got together to dig small ditches in order to drain a low-lying area of their adjoining farm, Senator Muskie—again, the primary sponsor of the legislation—replied that, "Section 404 is intended to describe only the true swamps and marshes that are part of the aquatic ecosystem." Senator Muskie went on to say that this type of work would not require a permit since the drainage could be performed without discharging dredged or fill material in water or "would occur in areas that are not true marshes or swamps intended to be protected by section 404."

The same penchant for over-regulation that was criticized back in 1977 is now victimizing citizens across the country, including my clients, some of whom are going to be testifying before this subcommittee.

In effect, it appears that the Corps and EPA are attempting to use the Clean Water Act to expand their regulatory turf right out of the water and out of the swamps and marshes and straight up onto dry land.

This new trend of regulating under section 404 as if it were some sort of a land preservation statute instead of an anti-water pollution statute stands in direct contradiction to the Corps' and EPA's regulations.

I'd like to point out that the agency regulations state, after defining wetlands, that "wetlands generally include swamps, bogs, marshes, and similar areas."

It was the intent of the Corps to include only true aquatic areas. That was made clear by a regulatory guidance letter issued not too long ago in 1986 by Brigadier General Offringa. He stated that, "Thus, we have listed swamps, bogs, and marshes at the end of the definition to further clarify our intent to include only truly aquatic areas."

It is noteworthy that the regulation, which is the only thing that has been subjected to notice and comment, as has been noted by some of the speakers here that preceeded me—the regulation did not say "swamps, bogs, marshes, and bottom- land soybean fields." It did not say "swamps, bogs, marshes, and corn fields; or bottomland timbered areas; or flood plains." It said "swamps, bogs, marshes, and similar areas."

From the Corps' regulatory definition, it would be reasonable to assume that one prerequisite of a wetland would be that it actually be wet. This fact is certainly implied by the final report of the National Wetlands Policy Forum. The manual that was produced by that Forum contained 26 photographs. Of the 26 photographs, only one shows something other than a submerged or truly wet environment or aquatic wildlife. This particular photograph, on page 37, contains the somewhat oxymoronic heading, "dry wetland." It is probably no coincidence that photograph appears on the same page that includes a discussion of the inevitable discrepancies which create confusion, delay, and frustration for landowners seeking to determine whether they own any wetlands subject to regulation.

Again, some of the speakers that preceeded me have already addressed the fact that on January 10, 1989, a joint committee from the Corps, EPA, Fish and Wildlife Service, and SCS jointly published a document entitled, "A Federal Manual for Identifying and Delineating Jurisdictional Wetlands." It is my understanding that the SCS has determined that they will not be using this manual until such time as it has been published in the Federal Register.

At least one law suit—and I believe two or three others—have directly involved the issue. Certainly the ones I am involved in have raised this issue—that the Corps and EPA have attempted to avoid public scrutiny by enacting this manual under the pretext of it simply being guidance. Nothing could be further from the truth. The manual, itself, states that it has mandatory techniques which must be applied.

Under the guise of the so-called "three parameter" test, the agencies have now begun to declare that land which is normally dry but occasionally wet—even as a result of a rainfall—is a wetland. Even if the intent of the 1989 Federal Manual was not to expand 404 jurisdiction into normally dry land, it was certainly the effect of the document.

The so-called "three parameter test" provides that the mandatory technical criteria of wetlands are: first, hydrophytic vegetation; second, hydric soils; third, wetland hydrology. The manual goes on to state that wetland hydrology is the "driving force" behind the creation of wetlands.

However, the Federal Manual is written so that the Corps can totally ignore one or more of these so-called mandatory criteria. For example, the manual states that areas that meet the hydric soil criteria and under normal circumstances support hydrophidic vegetation are wetlands; thus, they are able to completely ignore the "driving force" criteria, which is the wetland hydrology.

In other words, the agencies have allowed themselves the convenience of being able to ignore whether or not the property is actually wet—which is convenient if you are trying to regulate dry land.

Also, with respect to the hydrophidic vegetation requirement, when examined closely, we feel that this borders upon being ridiculous. I realize that these are matters of technical expertise, and I don't pretend to be a botanist, but in Missouri the Corps and EPA have designated numerous trees and plants that are commonly found on hillsides, yards, and parks throughout the State and throughout the country to be aquatic vegetation.

A far cry from lily pads or cattails, these so-called aquatic plants include such noteworthy "swamp trees" as pin oaks, silver maples, red maples, honey locust, Ohio buckeye trees, and the American elm—trees that are found throughout yards and parks everywhere. In fact, it was only after I read through the national plant list when I realized that my house, which is halfway up a hill, has a red maple tree, a pin oak, and two or three of these other trees that are listed as wetland trees, and I'm not anywhere near a creek, nor is my property in any way wet.

With respect to the other factor, hydric soils, it has already been pointed out by more than one court that the term "hydric" pertains generally to soils and layers of soil well below the root zone and to wetness conditions when those layers were laid down in long-past geological history. The use of the term "hydric soils" does not really assist in a determination of whether the root zone soil meets the saturation requirements of the regulation.

The impact of this is that by simply mapping hydric soils, which were formed centuries, if not millenniums, ago in almost all bottom-land areas in the country—certainly in Missouri and the Midwestern States—there is bound to be hydric soil. When you combine hydric soil with the so-called aquatic plant vegetation such as pin oaks, silver maple trees, and other trees that are found abundantly on hillsides, it makes it very easy for the agency to reach the desired conclusion, i.e., that the property in question is wetland. Under their own manual they can simply assume the third factor— that there is wetland hydrology present.

The impact of this has been very harsh to my clients.

I'd like to also point out that the breadth of the jurisdictional assertion of the Corps and the EPA is not simply limited to wetlands; it is also applied to trickles of water coming down hillsides and isolated ponds or mud holes throughout the country. In fact, the Corps and the EPA have asserted that they can establish the interstate commerce requirement if the wetland in question or the water of the United States in question is an area that migratory birds could use as habitat. In one case, migratory birds, through which the EPA and the Corps tried to assert jurisdiction, turned out to be robins.

I'd also like to address the factor of mitigation without specifically going into the MOA that has been the subject of much of the discussion today.

When parties have attempted to deal with the Corps and the EPA they often encounter a virtual stonewall of resistance. All too often it has been our experience that rather than use mitigation as a reasonable tool for preserving the environment, the agencies have used it almost as a device for quasi extortion. Some of my clients will expand a little bit upon that.

With all the resources in the agencies' control, it is easy to understand how landowners have no choice but to capitulate to the agencies' demand. For example, Mr. McGown tried to work with the Corps for a year and a half before he finally gave up and we brought a suit for declaratory and injunctive relief asking the court to determine that his property was not a wetland. A picture of Mr. McGown's property has been submitted. Mr. Chairman, I believe you have it up front. It is the so-called "aquatic area" here that looks startlingly like a corn field.

In exchange for repairing and doing some reworking on a 6.7 acre levee that had been in place on his property since 1932, the Corps and the EPA demanded—well, they offered to give him a permit, but the bargaining chip was that he essentially had to turn over one fourth of his 250-acre farm to them in exchange for the permit as mitigation for the 6.7 acres.

We still tried to work with them for another year before we finally gave up and filed the suit.

Mr. Moseley's situation was similarly frustrating. The agencies rejected his offer to set aside 22 to 23 acres of timber and brush and instead insisted that he change his levee alignment to set aside 18 acres of timber and brush on another portion of the property and to leave some other areas as set- aside.

In Missouri and Arkansas—and I believe in the very districts where Congressmen Emerson and Alexander are from—there is a $43 million Federal project which is known commonly as the Little Black River Project that has now been stalled for years, in part as a result of the EPA's bickering over mitigation for 280 acres of wetland. So far in this project—and I also happen to represent the Missouri drainage districts in that project—over $9 million has been spent—$8 million of Federal money and $1 million contributed by the farmers who desperately needed the drainage project to open up the old drainage ditches that had been in place since the 1880s, as Congressman Alexander noted.

The project was approved by Congress. It went through NEPA. It has been stalled by the 404 program, despite the fact that it is a Federal project designed and defended by the United States Soil Conservation Service.

The debate over mitigation has been a crippling factor in the landowners' desire to continue to expend more funds, despite the fact that they already have numerous easements purchased along the routes of the intended construction.

When the landowners have been faced with the frustration of the Corps and the EPA asserting jurisdiction over property that common sense tells them could not be wetlands because it is simply not wet, they have had little choice. They have had no opportunity to bargain. Two of my clients have gone ahead and filed suits against the Corps and EPA—Mr. McGown and Fercom Aquaculture—seeking a declaratory judgment from the court on the issue of whether or not wetlands exist on the property.

The response of the Corps and the EPA hasn't been too surprising: they have moved to dismiss the cases on the grounds that they claim that Congress intended to preclude review by the courts and that our only option is to sit back and wait for them to sue us. Other than that we can do nothing other than to listen to the Corps and EPA accuse us of being violators and multiple-flagrant violators.

These items are all in litigation right now.

In conclusion I'd like to state that we have no quarrel with the concept of protecting the aquatic resources of the United States including true wetlands, true swamps, bogs, and marshes. If, however, Congress, as opposed to these Federal agencies, truly desires to engage in dry land use preservation programs, it should do so expressly and remove the uncertainties, ambiguities, and confusion from the section 404 regulatory program and, at the same time and significantly, it should compensate the landowners whose land is taken in the process.

Finally, if Congress desires to implement a no net loss policy for the Nation's wetlands, it would seem that section 404, with all its various loopholes that have been mentioned before, is a poorly-designed vehicle for achieving this goal.

Thank you for the opportunity to speak.

Mr. **Nowak**. Ms. McGowan?

TESTIMONY OF NANCY McGOWAN, PROJECT ENGINEER, FERCOM AQUACULTURE CORP.

Ms. **McGowan**. I'm Nancy McGowan. I'm project engineer for Fercom Aquaculture Corporation.

I have been in the private sector for a few years, but prior to that I was a regulator, myself. My background is in environmental engineering, and I worked with the RCRA program, another very comprehensive program that I believe is probably the only one more complicated than 404.

The Fercom Farm is located in the agricultural dependent area of North Central Missouri. Our business is aquaculture. In other words, we raise fish.

Aquaculture is a growing industry in this country. Presently, aquaculture makes up less than 5 percent of the total seafood market, but many people in the industry believe that aquaculture will expand five- or six-fold in the next 10 years. The reasons for growth are simple: one, Americans are eating a more healthy diet—they want more fish; two, the wild harvests are declining because of over-pollution of our oceans and waters and because the wild stocks, themselves, have been over-fished.

Fercom raises mostly catfish. This year we expect to have 15 million fry, we will raise 8 million fingerling, and harvest well over 3 million pounds of food-sized catfish. These catfish will be processed in a processing plant located very nearby the farm and shipped to areas all across the midwest. This processing plant also buys other catfish from other farmers in the Missouri area.

We have and have had other species of fish on the farm, including hybrid striped bass, long-pinchered crayfish, trout, carp, and the most interesting addition to our research and development areas is freshwater lobster. These animals come from Australia, are very hearty animals, and seem to do very well in the waters of this country.

In order to raise that much fish, however, we have built and spent millions of dollars in the construction of hundreds of acres of water on what was previously dry, solid ground crop land.

Catfish are not the only animals that like Fercom's water. We make sure the water is good or we won't have fish. But the aquaculture ponds have increased the area of water in Missouri and have increased the habitats of diverse wildlife, including numerous species of birds, Canadian geese, deer, raccoon, and many other life forms, both aquatic and non-aquatic. In fact, a number of American bald eagles have taken up residence in an area near Fercom's pond, and on almost any clear day you can see one mature male, several immature males, a few females, and there are rumors from the guys on the fish crew that they see evidence of a nesting area, which is exciting for us.

Fercom is a commercial fish farm. Our impact on the local and State economy cannot be ignored. This industry employs over 75 people in Randolph County, and our employee compensation is in the range of $1 million a year.

As I said before, we have a processing plant that is developing a new industry for our State, and that's very exciting for us in areas that, in the past, have been limited to commodity crop growing.

What we have done is built water. You have several photos in front of you—some aerial photographs of the main portion of our farm. Fercom is an environmentally-conscious and ecologically-concerned company which has complied and fully intends to comply in the future with all applicable State and Federal laws. In fact, we have, in the past, tried to work with the Corps of Engineers on the 404 program. If you look closely to the aerial photographs, on the lower left corner you will see an area that obviously has no water in it. It is an area that is surrounded by a meander of an old creek that was there about 20 years ago.

We went to the Corps and said, "we want to build fish ponds in this area" and they said we needed a 404 permit. We obliged and applied for a 404 permit. We talked about mitigation. They said, "Well, the plan you have proposed,"—which we had proposed clearing the area and building ponds over the entire area—"is not satisfactory. But without a permit you can build ponds within the area circumscribed by the meander."

We said, "That is not realistic for us. Fish ponds have to be harvestable. We have to be able to seine them, so their size and ratio of length to width is important to us."

Upon six months of review by the Corps of Engineers they came to us and said this thing has been on their books for six months. In fact, it was very conveniently the end of a quarter. They asked us to either comply with their request for mitigation or withdraw the permit. We said we don't need the reduced acres of water based on the proposals that they were putting to us, so we withdrew the permit.

We went across the creek and, as you can see, in the past couple of years we have built quite a bit of water. We have taken land that was primarily used to raise corn and turned it into a thriving water business that has positive effect on the economic and ecological climate of the State of Missouri and the entire country.

Now it seems—and it is the reason I am here—that the Corps of Engineers and EPA have reached far back into their bag of policies to find fault. The policy I am speaking about is the new definition of wetlands. If I may paraphrase an earlier comment from the Congressman from Iowa, the new definition of wetlands and the ramifications of such is only a cure looking for a disease, and with Fercom they are looking for our disease, I believe.

I might add again, as others have pointed out, that this new definition was put in place without appropriate promulgation. We had no opportunity for public comment; only found a final document in place that is having devastating effects on landowners' rights.

In Fercom's case the new definition manifests itself in the contention that, in essence, building catfish ponds on dry, solid-ground farmland constitutes the discharge of a wetland in the waters of the U.S. Ironically, the U.S. Government has apparently taken the position that changing a dry area—farmland, row crop land—into a very wet area—catfish ponds—somehow eliminates wetlands. This not only affects Fercom, but all of the expanding fish farms in the country.

Fercom has sued the U.S. Government because of its unbelievable abuse of discretion in this area.

I am here today because you are the only people that can really make a difference. I don't know the answer to this problem. I do know there is a huge problem out there. What may work for fish farms would not necessarily work for rice farmers or anyone else out here, but there has to be an approach that takes agriculture into perspective in the 404 program.

Farmers are the stewards of the land, and they have been for centuries. I believe that we have to find a solution for this.

Thank you for the opportunity to speak today.

Mr. **Nowak**. Thank you very much.

Who would like to address us next?

TESTIMONY OF LARRY GERBAZ, COLORADO FARMER

Mr. **Gerbaz**. My name is Larry Gerbaz. I am here representing myself and two adjoining families. Because we have already shown some tapes and I have an extensive document which I submitted, I will try to be very brief.

In our problem I think the thing that we have to address is that 404 is extremely non-responsive. I called the Corps of Engineers—we are on the eastern edge of the Sacramento District. Sacramento does not have any idea what the problems are in the mountains of Colorado. The colonel I talked to told me that he wouldn't even discuss a permit with me.

My cousins spent over nine months trying to attempt to obtain a permit. They specifically in two letters requested on-site visits. The same requests for site visits by the Army Corps of Engineers were made via the telephone to the Grand Junction Colorado office. The Corps of Engineers never showed up. It was not until 1988 that someone from the Corps or the EPA set foot on the property. That was approximately four years later.

We are involved in litigation now at the moment that I think is totally uncalled for. Part of our problems stem from the fact that the Corps issued a permit to an adjoining property owner, and in their application they stated, under item seven, that there were no adjoining property owners. Now, I think we all know that there is no place in the United States there is not an adjoining property owner. So we were never contacted as to that permit. They did—which we have photographs of—unpermitted activities which directed the flow of the water over on to our property. Some of the things they applied to do were even on my property.

We also had the Bureau of Reclamation dam upstream from us, which had peak releases with peak flood flows, yet maximum storage occurred in a period of one to two months later.

There was also another process going on called weather modification. They were seeding clouds to increase water and snow to ski on. Now, where that river channel runs through in the movie there, I was paying taxes on it, but yet I'm supposed to bear the burden of that water flowing into my front yard and nobody seems to care enough to come out and try to give us a hand.

I think in this country what people have forgotten—I studied forestry—that there is an environmental equation, but it consists of a multitude of things. One thing that everybody is forgetting is that people fit into that equation too. I suggest to you, unless you are willing to line up along the Atlantic Ocean and jump in like the Arctic lemming, to sacrifice yourself for the environment we must find a balance. I'm not willing to sacrifice my family, and I think I have a right to protect my home and my family, and I would hope that you are in agreement with that and that we could proceed forward with some change to this law that we could all live with because it is totally unbearable now.

One final comment: Even though the Colorado Department of Health had approved our activities and said that we would not violate the very things we are being charged with today, the Corps of

Engineers and the EPA and U.S. Fish and Wildlife Service said it would be detrimental to fish habitat downstream because we would put a bulldozer in the river. It was the cheapest and most affordable way. I do not have a tax base to afford these large projects as the Government can.

The EPA and the Corps of Engineers was out last week. Their current plan is for us to totally destroy one mile of river and build a river that has never existed in the lifetime of my family. That river is basically today the way it has always been, and my family has lived in that valley for almost 100 years. But that's okay. I don't believe that it has anything to do with water quality. The EPA, themselves, said that the reason we had to come up with a plan was that they did not give us permission to do what we did. If I had waited for their permission, I do not know where we would be today.

I thank you very much for the unique opportunity to speak here today.

Mr. NOWAK. Mr. McGown?

TESTIMONY OF RICK McGOWN, NORTH CENTRAL MISSOURI FARMER

Mr. McGOWN. Mr. Chairman, my name is Rick McGown. You have got a copy of my statement up there.

I want to start just a little bit before the fall of 1987. I bought my farm in the spring of 1981 and this piece of property was farmed, as far as we can tell, clear back to almost 1800.

In the latter part of the 1950s and early 1960s they had a soil bank that the farmers could put the ground aside kind of like in the CRP. I was one on the tractor pushing the trees and everything there. The trees in there—that was the biggest that was on the property. From that it went clear down to not even the size of this cup.

When I bought it in 1981 all drain ditches were intact, the levee was intact. The levee was put in, by the papers we have here, in the early 1930s. It was actually the early 1920s when the levee was put in. It was put in with flood gates on your tubes and everything. The main drain ditch that takes care of the farm was put in by the Soil Conservation Service somewhere in the 1940s to 1950s.

In 1983 the Soil Conservation Service cost shared to put my diversion terrace that diverted all the hill water off of my farm.

So when it comes to crop time, or whatever, I don't have a problem with putting a crop out unless we have a freak flood or something like that. But ever since I have had this farm I have had a crop in it every year.

Through the ASC office and everything I was 92 percent complete with finishing this up, so with Swampbuster we didn't have any problem or anything.

But in the fall of 1987 I went to the ASC office because the only Federal subsidies I was getting—I went in the farm program that year. I don't have Government loans or anything. But I went into feed grain that fall, so I want to the ASC office and I told them what I was going to be doing. I said I wanted to finish clearing a little more brush and asked if there was any reason I can't do that being as I am in the farm program.

They handed me a sheet that said "Swampbuster" on it, and they said, "Even if you do have any wetland, it says if you started before December 23rd or 1985 you are exempt." They said do anything you want to.

So I went in there and started to work on a 70-year-old levee, and at that time—well, they told me it was going to cost me $10 and that was it. They just said that they had expanded their jurisdiction and that if I had done it two months sooner I wouldn't even have had to put in for a permit, that they had just done that.

So I met them at a service station. They had the papers drawn up and everything, and I signed them. Well, that was a 404 permit. So from that time my family and I were subjected to—you might as well say ridicule, everything that you can imagine. These Government agencies we have out here that are coming by your property and everything, when they are dealing with your families and your neighbors and everything they don't even act like they are human. They act more like you'd see over in a communist country. They're not even what you would see in the United States.

We had different neighbors that were there each time that these people showed up, so everything in this statement plus a lot more we can verify with records or people or anything else.

I won't go on and on forever, but this has gotten completely out of hand.

On the television you saw us dig that hole that was 28 to 30 inches deep. We actually dug that hole down to 38 inches deep, but they used the part there where we were only at 28 to 30. We have been doing that same thing on this property now for well over two years, documenting the holes and everything like that. We have never gotten any water in any of them. This farm was even tiled back in the 1940s. I have no standing water on this property whatsoever.

What has to be addressed is: what is a wetland? I bought this farm under an administration that, at the time, in the later part of the 1970s—I think it was Earl Butz that came out on television and gave a speech and told us he wanted us to farm from fence row to fence row. Okay. I bought that farm under that criteria, and now I'm practically done. I went through a daughter that had been sick for four years and then I got right into this here.

If I go broke, it is going to be the Government that does it to me because I made it through all the rest.

But there are some serious problems out here, and I don't care if it is me or people from Pennsylvania, or whatever. It has to be addressed. Unless something is done we are going to have a very serious problem because people like me are not going to walk off and give the Government a fourth of their farm, half their farm, whatever.

I bought this farm in 1981 to bring my family to, make it into a home. I have got a beautiful home there now—the land and stuff. Because of all the harassment, just a little over 12 months ago I moved my family to town, so they are not even on this farm at this time. The only reason—and even our neighbors know it—is because of the harassment that was going on from the Federal Government.

I have tried to do what is right all the way through. I will work with anybody that is rational. But I cannot buy a farm with $105,000, carry it, do all the work that I have done in it, put it down to where it will make a living, and then turn around and start giving it away. But they said I was only using 6.7 acres of ground—that was including my old levee and everything—that underneath even the old levee would have only been 6.7 acres. All right. They wanted me, first off, to build a 6.7 acre lake. All right. They wanted me to dig it down in the same field here that the levee was. They wanted me to make wetland. Even our Senators and everybody else—well, Senator Bond, himself, was at Kirksville at the meeting. He said evidently McGown doesn't have wetland anyway, so why would he have to make wetland in the exact same place that they are calling wetland? He said it doesn't make sense.

I didn't want a 6.7 acre lake down in the bottom. That would have cost me more than redoing my levee around there. The only thing I want to do is make repairs to my farm and be left alone. I have to make a living. I have three kids. I can't do that if I give away the only assets I have.

When my daughter was sick, basically I sold all the assets I had in order to pay the doctor bills, and I went to FHA, tried to get them to take over my loans and everything and they wouldn't do it. So I carried my farm all the way through, paid every doctor bill I had, and now I'm supposed to give one-fourth of my farm to the Federal Government for me working on my levee. This is totally out of reason.

Like I said, you have even the supplemental statement there that will kind of give you the guidelines on it and everything. But for 6.7 acres, one-fourth of a 255-acre farm—we never even settled it. The last time we had a meeting with them they said that because I had resisted I had to give them more, or something to that effect. I forget what it was. We were going on from that.

That's just the seriousness of the problem we've got going on out here, and it is just not me that it is happening to.

I come here trying to let you all know so that no other farm family would go through what we went through.

I want to thank you for your time.

Mr. NOWAK. Thank you very much.

Larry?

Mr. GERBAZ. I'd like to bring up one other point here which I forgot—to address what Mr. Scherr of region eight, an administrator, said. Before any of that work that was done that was on the television program there were two attorneys that stood on the river and a water hydrologist that said that we were covered under nationwide permits of the farmers' exemption——

Mr. NOWAK. That's in the testimony here?

Mr. GERBAZ. Right. But I didn't say that earlier. Just so that everybody knows, we didn't just go out there and thumb our nose at the Government.

Mr. NOWAK. Yes. You relied on that information of the expert——

Mr. GERBAZ. Right.

Mr. **Nowak** [continuing]. Witnesses, and they did that after some technical legal research.

Mr. **Gerbaz**. Right.

Mr. **Nowak**. Is that correct?

Mr. **Gerbaz**. Right.

Mr. **Nowak**. That's in your testimony.

TESTIMONY OF ALLEN MOSELEY, NORTH CENTRAL MISSOURI FARMER

Mr. **Moseley**. Mr. Chairman, thank you for the opportunity to testify today. My name is Allen Moseley, owner of an approximately 187-acre farm in Chariton County, Missouri. I am a lifelong resident and farmer in Chariton County. I served in the United States Marine Corps from 1972 until I was honorably discharged in 1974. I returned to Chariton County and resumed farming. I live in a rented house with my seven-year-old daughter Allie, near the field property.

Portions of the property are located close to Yellow Creek, but the property does not contain any rivers, streams, creeks, or lakes. It consists of dry, solid ground.

The property had drainage ditches established decades ago and the property is not wet. I haven't dug any new drainage ditches, nor have I drained or filled any of the property, so it is dry and not necessary for any new drainage ditches.

I have some photos there that you can see.

Then the Army Corps of Engineers came to my property while I was building a levee wanting to make a wetland determination. I okayed it. They came back a month and a half later and told me I had 30 days to apply for a $10 permit, 90 days to restore or face litigation. So I applied for the permit rather than tear down my levee. Then they said I had to mitigate for 7.8 acres destroyed in the footprint of the levee, so I offered them 22 acres of timber and they said okay but came back later and said they already had that.

On August 15, 1988, the Government sued me for polluting waters of the United States, and they are wanting about 50 percent of my 187-acre farm set-aside. I am to plant 3,500 trees and pay a $7,500 fine.

The Government agencies have not offered to pay any compensation for my property. I feel there is a question here of where water ends and where land begins.

I thank you very much.

Mr. **Nowak**. Thank you.

Ms. McAtee?

TESTIMONY OF RHONDA McATEE, SECRETARY, PENNSYLVANIA LANDOWNERS ASSOCIATION

Ms. **McAtee**. At this point we are going to show you a two-minute segment of some further TV coverage of a farmer in Waterford, Pennsylvania, which is near Erie, who had pending fines also of $12 million. Again, it depicts the type of lands that we are talking about. You'll get a view of that. Pictures speak louder of words.

And also a meeting that was covered that we had that just outlined our main concerns.

[Videotape shown.]

VOICE. The EPA says he illegally built wetlands. The farmer feels he is being denied the use of his own land, and he says he is caught in a tangled web of Government red tape.

Farming used to be fun for Robert Grace, but not anymore. He found out a few cattails were the start of a long and expensive fight with Uncle Sam.

It is hard and people can't believe the fact that a four-foot or three-foot pothole with cattails in it is a regulated area, but it is.

The Government says that is wetlands, but Grace said he began clearing the land in 1977 to improve the property.

His problem began last spring when the EPA came to visit. He says ever since his life has been a nightmare of legal battles.

I've got a situation where this agency is saying one thing and another agency is saying another. They say one thing, and you try to clarify it with another segment and you just get a runaround. They want to come down.

Grace's future is up in the air. He is supposed to meet again with the EPA, but in the meantime this land stands idle.

[Conclusion of videotape presentation.]

Ms. MCATEE. I'll skip over the meeting part, but I'll outline in my testimony what that meeting would have said anyway.

This is, again, a standard example of what virtually hundreds of people throughout the country are being put through.

Good afternoon. My name is Rhonda McAtee and I am here on behalf of the Pennsylvania Landowners Association representing over 1,400 members with land acreage totaling nearly 700,000 acres. We represent a range of individuals, including those owning small parcels of quarter-acre lots to those owning several hundred acres.

The intent of this organization is to monitor legislation and regulations which have a direct impact upon the rights of private landowners and to strive toward amending those legislative efforts and regulations which impair the rights of private ownership.

This organization has numerous concerns regarding the section 404 program of the Clean Water Act and wetland regulations; however, I will attempt to focus on a few key points.

I would first like to state that this organization is absolutely in favor of protecting our Nation's naturally-occurring, environmentally-sensitive wetland areas. However, we feel this goal must be accomplished with the rights of private ownership being considered in the balance.

To begin, I would like to suggest that the legislature become more aware of what constitutes a wetland. Wetlands go far beyond swamps, marshes, and areas with water, as we have heard earlier today.

A document published by the four Federal agencies involved with wetland delineation adopted January 10, 1989, dictates criteria for wetland identification. The manual describes the elaborate technical criteria which the legislature should be made aware of.

Perfectly dry land is being classified as wetland, and many property owners and prospective buyers have no idea that these types of property meet wetland classifications.

Another area that I would like to touch upon is that of zoning. I believe there is a dire need to clarify the difference between zoning and wetland regulations. We are all aware that zoning ordinances are measures to ensure that property uses are not subject to individual whims with disregard to the consequences of neighboring properties.

If a prudent person is interested in purchasing land, housing, etc., an inquiry into the local zoning laws and other governmental requirements discloses what can and cannot be done with that property. Once a person is aware of such limitations as utility easements and rights of way. they are then able to make an intelligent decision of whether or not to purchase the property, and realizing, for example, if it is raw land for residential use, that he is required to maintain an open setback of 50 feet from a certain roadway or other point.

The important message is: the buyer knew what he was buying and what was expected of him. Now if, ten years later, the zoning authorities decide that good land use requires either a wider road beyond the present right of way or that the setback should be extended, requiring five feet of a front porch to be removed, would the owner be entitled to compensation? Undoubtedly. The right of way addition would have to be purchased through condemnation. The same method would be necessary if the Government decided that more open space or parks were needed in the same area.

Those people who argue against any compensation would have you believe that the property owner should say, "Certainly, Mr. Government, take my property for the use of all. And please, you don't owe me a cent. After all, I have a responsibility to carry out."

While it is within the law to restrict and to regulate property, it has never been accepted to allow restriction to the extent that virtually all economic use of the property is taken from the owner without providing just compensation as prescribed by the United States Constitution.

Those who oppose the compensation aspect constantly offer the blanket generalization that the courts do not allow such in wetland cases. Absolutely not true. Takings of private property have been established in such cases as Whitney Benefits, Incorporated, versus the United States, a case where the court awarded $60 million plus interest—a total award of $120 million—for economic loss. The court found that the law and regulations resulted in a taking under the 5th Amendment where the owners of coal properties were prohibited from mining their coal.

The presiding judge was quoted as saying, "That Government can scarcely be deemed to be free where the rights of property are left solely dependent upon the will of a legislative body, without any restraint. The fundamental maxims of a free Government seem to require that the rights of personal liberty and private property should be held sacred."

In another case known as First Evangelical Lutheran Church of Glendale versus the County of Los Angeles the court found that the mere existence of a flood plain ordinance imposed a taking and the plaintiffs were entitled to just compensation. The court also noted that under the just compensation clause the basic understanding of the amendment makes clear that it is designed not to limit the Government interference with property, per se, but rather to secure compensation in the event of otherwise proper interference amounting to a taking.

The court went on to quote, "It is axiomatic that the 5th Amendment's just compensation provision is designed to bar Government from forcing some people alone to bear public burdens which, in all fairness and justice, should be borne by the public, as a whole."

The State of South Carolina has also recognized when regulations create takings of private property. South Carolina's Beachfront Management Act of 1988 provides for beachfront protection and related coastal tidelands and wetlands. However, the Act also requires compensation to property owners who have been prohibited from building on or utilizing their properties which have been determined important to the public.

Many landowners have lost all use of their properties with the imposition of wetland regulations. Many have spent their life savings and years of paying mortgage payments and taxes, only to find it has all been lost through no fault of their own.

As one devastated property owner wrote me, "I'm told buyer beware. How do you beware of something no one has given you any information about? It is not in the deed, the banks don't require a wetlands survey, the townships claim they were not aware of the law, and the real estate agencies claim ignorance. So how is an ordinary person supposed to know?"

Other landowners have attempted to farm their properties only to find themselves facing astronomical fines for cleaning ditches and installing field tile. Others have been denied access to their timber, often needed as supplemental income in their retired years.

The Pennsylvania Landowners Association supports legislation which would justly compensate landowners who have been denied a permit to utilize their land because of a wetland determination. Inclusion of fair compensatory provisions in wetland legislative considerations is not only vital to establishing a balance of private and societal needs and interests, but also serves to recognize the essential Constitutional requirement that "nor shall private property be taken for public use without just compensation."

Thank you for the opportunity to comment here today.

Mr. Nowak. Thank you very much.

Mr. McGown. Mr. Chairman?

Mr. Nowak. Yes, Mr. McGown?

Mr. McGown. When we were at our farm and we first got into this, the Corps of Engineers came to our property and they told all the farmers there that were present that day that anything that you had done on your property clear back to 1972 you had to mitigate with them and give them part of your property. Again they changed that to 1975, and then later on they printed it in our newspaper and said anybody back to 1977.

Now, when you ask them nobody knows any of that. Nobody said any of that stuff. But we've got the witnesses to it, and I've even got the newspaper clippings.

I didn't even start to touch the tip of the iceberg of how they treat people when they are on your property.

One thing I want to bring across is how you can get——

Mr. NOWAK. Let me say that whatever we don't have time for here, this record will be kept open, and any additional submissions you want to make after spending the day with us here and hearing the other witnesses, whether today or tomorrow, that you'd like to submit, please feel free to do so and we will incorporate that following your testimony here today.

TESTIMONY OF FRANCIS BURNIER, NW PENNSYLVANIA FARMER

Mr. BURNIER. My name is Francis Burnier. I thank you for the opportunity to give testimony as you consider the wetlands issue.

My wife Mary, three of our six children, and myself moved to a farm in Pennsylvania in 1984. Mary had grown up on the farm and helped her father farm it and the surrounding land before going to school in Chicago where we met and married.

In 1986 we bought an adjacent farm that had been farmed since the 1800s. An elaborate system of dikes, gates, and drains had been installed by the turn of the century to grow vegetables.

Everyone said that this was a good farm. The one drawback was that because of the rich mucksoil the ground becomes very unstable when it is saturated with water and the ditches would have to be cleaned before the land could be worked.

I knew about the cars, the tractor tires, the washing machines, the trees, and the other flood trash in Marsh Creek that causes this land to flood with any heavy rain, yet I was willing to clean the ditches by hand so that a flood could be temporary and the adverse effect on corn or hay would be acceptable.

We purchased the land and I immediately began cleaning the ditches. I didn't punch a clock, but I estimate that I spent over 1,000 hours of back-aching work cleaning them.

Then in the fall of 1987 I started getting letters. First the Department of the Army sent me a letter saying I was in violation of section 404 of the Clean Water Act by placing dredge-fill material in wetlands, even though by their own definition I didn't put any fill anywhere.

Then I received a letter from EPA saying I was in violation of section 301 of the Clean Water Act by discharging pollutants into the Nation's waters and that EPA may pursue criminal prosecution which may entail imprisonment and fines of $50,000 per day.

I live downstream from the village sewer plant, and I had the water that came out of my ditch, and as it came onto my property from upstream tested. The test showed that the water coming down the creek had 200 times as much of what the laboratory calls fecal coliform as that coming out my ditch.

Then I received a notice of violation from DER saying that I was in violation of section 693(6) of the Dam Safety and Encroachments Act where I had opened my existing ditches.

After being charged with filling and polluting, I was told my crime was cleaning the ditch.

I learned that this hay field was now considered a wetland. It mattered not that this field had been ditched for over 100 years. It mattered not that 50 acres of this farm was designated for wildlife in 1969 when the ditches in this field were relocated. It mattered not that the lawyer, the banker, the sheriff, the neighbors, the soil conservationalists, and the Widow Webster all thought it was a farm. It mattered not that I thought it was a farm and intended to use it as a farm.

Because such things as Disneyland, Cape Canaveral, the City of Chicago, etc., were built on wetlands, we now have a shortage of them, and so my hay field has now become public interest land.

A large pine tree filling the Marsh Creek and between the flood trash and the beavers, a dam was created in the fall of 1986 just below the ditch drains the land Mrs. Webster still owned. The water then backed up this ditch and flooded both her land and mine with almost every rain until the dam was opened in 1987.

When I received the notice of violation saying I had drained 100 acres when my field was only 16 acres, I assumed I was getting credit for draining my neighbor's land also. When I received a letter telling me to plug the ditches, the diagram indicated my neighbor's ditch should be plugged. Then I was told the diagram was in error and the ditch that is common to our properties is the one that should be plugged.

Since my neighbor regularly planted corn there, I told him I had to plug it but I didn't care if he opened it up.

I was told about flood plains, pollution, and wildlife habitat. I showed them that I was improving all of them. Then I was told that the ducks that spend the summers in Canada and the winters in Florida use my field to stop over on the way back and forth. Much of the 50 acres designated for wildlife is used by the ducks. We even bought a spotting scope so that we can identify them as they migrate through.

If wetlands are so important—and I have read that our existence on this planet is dependent on wetlands—then the burden of maintaining them should be borne by the public. I see no rationale to dictates a farmer struggling to provide for his family be made to bear a burden created by others, nor do I understand the Corps of Engineers' selection process when enforcement people ignore their own observations and prosecute on the information provided by the anonymous tipster.

On September 22, 1988, DER mailed me a permit to clean and maintain existing drainage ditches in this field. On November 1, 1988, Jacob Sitlinger of the Pennsylvania Game Commission wrote a letter to the Corps of Engineers recommending I be made to keep the ditches closed. On November 7, 1988, Barbara D'Angelo from the EPA wrote the Corps. During the October 26, 1987, meeting a representative of the Pennsylvania Game Commission informed EPA that the Commission has been interested in purchasing the wetland due to its waterfowl habit functions and value, and she recommended that I be made to keep the ditches plugged.

When I researched my deed in the courthouse I found that I had recorded rights to maintain drainage to my neighbor's land as well as my own.

Certain groups would have you believe that I am anti-environment. This is not the case. In fact, if you would have held this hearing three years ago I would have lined up with the Audubon Society or the Sierra Club. But now I simply believe I have the right to use some of my land to raise cows.

If the Game Commission translated the 23rd Psalm it would read, "He maketh me to lie down in wetlands." I, for one, feel more comfortable with the green pastures.

As long as the Game Commission field people act as the eyes and the ears for the enforcement agencies, I feel it is necessary to protect property owners from the myopic, biased, and sometimes erroneous information that leads to unwarranted regulation of private property.

Thank you.

Mr. **Nowak**. Thank you very much.

Next, Mr. Kertz.

TESTIMONY OF BERNARD KERTZ, NORTH CENTRAL MISSOURI FARMER

Mr. **Kertz**. I'm Bernard Kertz from Randolph County. I'm on the Sheridan Valley. I've got a property of about 500 acres there.

I clean drainage ditches and—well, originally it was set up with a drainage district like Congressman Bill Emerson said this morning that in the 1950s and 1960s was drained. A drainage ditch was set up and by-laws were set up maintaining drainage and continued keeping it for farming purposes.

I did this, plus I went to SCS office when levee work was to be improved. The land was on—the SCS and the Federal Soil Survey said it was non-hydric soil. We had it checked two different times by them, and both times they said non- hydric. The Corps of Engineers came back in and said it was hydric soil and made me get a permit. To this day, eight months later, we don't have the permit.

They are telling me that I am going to end up in the same place as the rest of these boys. I think we all have taken the precautions that we need to take before we do something and we are just being unfairly prosecuted. Thank you.

Mr. **Nowak**. Thank you.

Mr. Kamenar?

TESTIMONY OF PAUL D. KAMENAR, EXECUTIVE LEGAL DIRECTOR, WASHINGTON LEGAL FOUNDATION

Mr. **Kamenar**. I believe I am the last witness, Mr. Chairman. My name is Paul Kamenar. I am the Executive Legal Director of the Washington Legal Foundation and I do have just a two-minute tape about our client, Mr. Pozsgai, who has the dubious distinction of receiving the longest jail term in the history of the United States for an environmental crime.

The filming on this was done right after a huge rainstorm. In fact, the cameras had to wait a while until it stopped raining, so there will probably be some rain.

[Videotape shown.]

Voice. An appeal has been filed in Pennsylvania Circuit Court involving a man convicted of violating the Federal Clean Water Act. CNN's Dan Gifford reports many feel neither the prosecution nor the punishment fits the crime.

This is John Pozsgai, refugee from the 1956 Hungarian uprising. He is convicted as an environmental criminal. His crime? Filling in part of his 15-acre piece of land in violation of Federal injunctions.

Mr. Pozsgai bought this land 10 years ago. The crime was recorded with a hidden camera by EPA investigators, a crime because the Government says this is a wetland and filling it in is a violation of the 1977 Clean Water Act.

This piece of land—there is no way you can qualify it as any kind of wetland.

Experts say it is. But is partially filling in this land, land that was not used 30 years—a mess Mr. Pozsgai cleared up—worth a three-year jail sentence and a $200,000 fine?

These are important violations.

The Washington Legal Foundation took the case after Pozsgai's conviction, a fight Mr. Pozsgai couldn't afford in the first place.

The jail term imposed on Mr. Pozsgai is the longest jail term in the history of the United States for any environmental crime. I'm talking about crimes where there has been toxic waste, hospital needles, PCBs. It was a small crime.

We have to apply the laws fairly.

The equivalent fine if Exxon Corporation was damaging the environment would be approximately $62 billion, twice the company's net worth.

Mr. KAMENAR. As I was saying, our foundation, the Washington Legal Foundation, is a nonprofit, public interest law and policy center with 120,000 members nationwide. We do get involved in several areas impacting on the environment. We have participated in many court cases on behalf of ourselves and even numerous Members of Congress and the Senate where environmental groups have used the environmental laws to stop vital national security projects.

More particularly, we have litigated several cases—one is Mr. Pozsgai's case, which we have taken up on appeal. We think what should be kept in mind here is that we believe our important natural resources need protection, but we should heed President Bush's own words during the State of the Union Address recently that the needs of a clean environment must be reconciled with the needs of a strong economy.

In addition, we believe the EPA and Corps have been totally oblivious to other constraints on their activity besides engaging in enforcement overkill, as the prior witnesses have vividly illustrated. They have avoided any analysis at all—in their testimony yesterday I didn't hear one word about Executive Order 12630, which requires agencies to conduct takings implications analyses in terms of what their activities may do involve taking private property through over-regulation.

I also think they are violating the Paperwork Reduction Act by not having OMB control numbers on their applications and paperwork and requests for additional information, which Congress again mandated to be the law.

Now, in this case that you just saw, as I said, Mr. Pozsgai has the dubious distinction of receiving the longest jail term in the history of the United States. You saw in the earlier tape that Ocie Mills got a two-year jail term; Mr. Pozsgai got a three-year jail term. These are the first two individuals who are being criminally prosecuted for filling in "wetlands." In addition, our office is being flooded with numerous requests for help from other citizens—farmers, small businessmen, and so forth.

Our primary concern is that the EPA and Corps are taking the Clean Water Act, which is a very good law and has a laudable purpose, and they have administratively transformed that law into some kind of a wetland protection act without the authorization of this Congress and without full public debate.

The Clean Water Act's goal of having our waters to be swimmable and fishable, while laudable, are being ignored by the EPA, while it spends countless tax dollars going after people like Ocie Mills and farmers here and Mr. Pozsgai. In short, what we have is that they are not concerned with whether or not protecting the wetland makes our waters swimmable and fishable. They are just protecting the wetland as an end in and of itself regardless of what kind of wetland we have.

What you've got here is the proverbial regulatory tail wagging the statutory Congressional dog. The word "wetlands" is nowhere defined in the law, and if the President and the EPA think it should be protected—and many of us, of course, do—if it is that important, Congress can and must address that issue squarely in legislation, as have many States, rather than leaving enforcement of this vaguely-defined policy against your constituents to the whim and caprice of uncontrolled regulators.

What came out through these hearings this morning is that there needs to be public debate and openness on this whole process. The MOA—there was no public debate about that. It was done basically behind closed doors. Indeed, I am a little bit surprised that the EPA I believe violated the Federal Advisory Committee Act when they set up this National Wetlands Policy Forum sponsored by the Conservation Foundation which is driving this whole debate. That, under the law, was required to be charted under the Federal Advisory Committee Act to make sure everybody has an input on it. They make the rest of us citizens follow the law to the "T" and yet, in setting up this policy, they, themselves, did not.

But the main point that I want to stress is that there are wetlands and there are other so-called wetlands. The familiar types we have heard are estuaries, marshes, bogs, and so forth, near open bodies of waters that support fish and wildlife habitat or is a filtering area for pollutants.

Mr. Pozsgai's property—the film didn't really show it completely—is in an industrial area of town near Trenton, New Jersey, far from any ocean, bay, or river. On one side of his property is an automobile junk yard; on the other side is a tire dealership; on the south side it is bordered by a four-lane major highway; on the north side by his street, Bridge Street. The Government claims that this is not a marsh, swamp, bog, or anything close to it. The Government concedes it serves no fish or wildlife habitat—unless you want to count a few squirrels that are in the trees. Nevertheless, the Corps' cursory soil sample decided there was the presence of such rare vegetation as skunk cabbage, a common weed, and sweet gum trees, a common variety of tree, was enough for the Corps to say that constitutes a wetland and we're not going to be flexible about this.

But, interestingly enough, no one has talked today or yesterday about nationwide permit number 26 which allows citizens to fill in less than ten acres of wetlands if they are above what is called the headwaters—essentially isolated lands. Again, in this case the Government concedes that Mr. Pozsgai's property is above the headwaters, and you would think that he would be entitled to fill up to ten acres, and he only really wanted to fill a couple of acres. But the Corps did not give him a permit in that area, as well.

The Catch 22 about it—if you look at the Corps' regulations, it says if you are entitled to a nationwide permit, no application for a permit need be filed. That's what is really bizarre here. They're trying to make him fill out a permit when under the nationwide permit he doesn't have to fill one out.

This property is apparently so valuable that the Corps didn't even feel it necessary to call up the dumping company that was putting the topsoil on the property. Their name is plastered on the truck. They had videotapes of it. The phone number—he was doing it for a year. They didn't bother to call up this company and say, "Hey, stop. There are some valuable wetlands here." Again, they were trying to engage in this bureaucratic give and take, and usually the citizen is on the other end of the stick on this.

Again, there was no damage to water quality. Mr. Pozsgai cleaned up 7,000 old tires from the property, took out junk that was in a tiny stream on the edge of his property. So, if anything, the water quality of his property improved by his conduct. And yet, again—as I said earlier—the EPA is not concerned with whether the water quality is clean or whether our waters are swimmable or fishable; they are just concerned about how far they can stretch their jurisdictional authority regardless of the goals set by Congress.

Mr. Pozsgai, as I said earlier, was convicted, sentenced to three years, and, at the urging of the prosecutor, who said, "A message must be sent to all landowners, the corporations, and developers of this country," that fine, probation, and short prison terms are a thing of the past for the so-called environmental crime—especially those involving wetlands.

As for explaining how a typical arsonist would receive a much more lenient sentence than that meted out against Mr. Pozsgai, the Justice Department responds in its brief on appeal that arson is, "Toward a limited number of victims," whereas the victims of Mr. Pozsgai's crime "includes the public at large."

Now, earlier we heard some testimony from Congressmen to get real here. Let's bring some common sense to this. It seems really unbelievable that an arsonist would receive a shorter jail time than putting a couple of acres of non-toxic, clean topsoil on someone's property.

In conclusion, we know there are approximately 290 million acres of wetlands in the United States. While certain wetlands are certainly important, it seems totally unreasonable and unjust to impose maximum penalties on the loss of a few insignificant acres of a so-called wetland.

The EPA and Corps would have wetlands protection be on par with the Endangered Species Act. It seems to us that this type of attitude makes the EPA and the Corps—indeed, the entire Federal

Government—look like oppressors of the people rather than their servants.

And then you see examples at the Yazo River Project where the Corps, itself, is taking action which many claim are destroying thousands and thousands of acres of very valuable wetlands.

Well, regardless of the outcome of either our case or any of these other cases, this body must take a hard look to determine whether over-zealous prosecutors in the EPA and Corps officials are invoking our natural concern for protection of wetlands to justify unreasonable enforcement actions. To most Americans, scarce agency resources would be better spent curtailing serious polluting activity and that criminal resources would be better spent fighting drug dealers and rapists rather than imprisoning senior citizens whose only crime was to try to realize the American dream of owning and reasonably developing their land, farm, or property.

Recently concluded memorandum of agreement between the EPA and Corps should be subjected to notice and comment. While the final version was modified a little bit to take into account "insignificant filling of wetlands," if the Pozsgai and the Mills case and some of these other cases are any indication of what the Corps means by insignificant, it is unlikely there will be any flexibility of reasonableness to the implementation of the goal of no net loss of wetlands.

Thank you for the opportunity to present our views.

Mr. Nowak. Let me first of all thank everybody for their patience sitting around waiting for the opportunity to testify, which I thought was very well expressed by each of you in your different situations.

As we look to bringing hopefully some consistency to this, one of the blaring problems is certainly brought up by your testimony in the very basic form of lack of information or knowledge on the part of people who are out working in these communities, not understanding what has been put into the system so that they could, at least in the first instance, have the capability of understanding what their obligations will be. Two or three of you have purchased recently land that was in this type of use. It is a little like due diligence that industrial property buyers and sellers are going to have to go through and adhere to in selling land that has some environmental problem.

If the innocent purchaser can't find a way to protect himself, we are going to slow down an awful lot of economic transactions here in this country if we don't get that clearly instituted in the system.

Of course, at least some of you it seems to me have been caught on the edge of that same kind of problem relating to the 404 problem and clarification that we try to have the Corps and EPA institute last year in just the definition of a wetland. Could we find agreement? We struggled last year at our hearings trying to find a way to have that put into the system so that we could get that reliability. It is not only within the Corps people here in Washington—both the EPA and the Corps—but all of those people that you are going to be dealing with out there in the communities and the various interpretations.

I think that is certainly one area that we will have to make very, very sure. If we are going to have a program in this area that works, we are going to have to get that consistency. We are going to have to get that information so that purchasers and sellers, alike, are going to understand the obligations and what problems they may have in trying to use to its fullest extent property that you are buying or operating with.

A little disturbing, though, is the type of—and I know you wanted to express more of this, and I hope you will and send it to the committee—the kinds of relationships that are out there, the explanations, or perhaps even more, the knowledge and information transfer from the EPA or the Corps and their dealings with you as citizens. The Government is still, as far as I know, a service industry. Those are representatives that you are actually paying for, on the one hand, and trying to have them meet their obligation in a manner that is reflective of at least some type of respect that certainly every citizen deserves. The lack of that respect, whether or not they are wrong on the merits, really starts to erode the whole system. I don't know how we are going to be able to accomplish anything if you don't have at least a limit of good will when you are trying to go through your Federal responsibilities in whatever job you have.

Arlan Stangeland is, of course, a farmer. We went out to Minnesota in his district and had some indication last year at field hearings in St. Cloud, Minnesota, of the farmers and the problems that they encounter. Arlan, as you may know, is also on the Agriculture Committee here. Dealing with both of these 404 problems and the Swampbuster program that has been mentioned here and the other problems that are out there and the drainage was a primary concern in his area. They were trying to have all of that reviewed again. If you were here yesterday, I did try to get EPA and the Corps and the Conservation Forum, who have proposed changes, and who had ranchers and farmers bringing forth their points of view and incorporating that into their report. I'm wondering now if we can't better define those kinds of problems after your testimony here today.

I want to thank you for your testimony before I call on Mr. Stangeland for what I am sure is a more in-depth look at your situation.

Mr. Stangeland?

Mr. STANGELAND. I think we have a lot in common, Mr. Kamenar. I was at Sweedens Swamp and I took pictures of Sweedens Swamp. I came in and showed to then-director of EPA those pictures and told him if he thought that was a pristine preserve of wetland he had rocks in his head, but I didn't prevail. We still lost that battle.

I believe in the preservation of wetlands, but I think there is a value to wetlands.

Mr. Pozsgai's story here as I've heard it from you just borders on the incomprehensible. I think that just evidences to me some overzealousness.

I want to say to Messrs. Moseley, McGown, Kertz, Gerbez, and Bernier thank you for coming. I'm sure it was at no small expense to yourselves. We appreciate your testimony, and we will analyze the written testimony. Mr. McGown, if you have anything further to state, just write it out and submit it to the record, as the record will be open.

The unfortunate part of your problems, which are nightmares to you and virtual horror stories, is that we sitting here, not knowing the area you come from, not knowing all the particulars, have a difficult time judging. I don't question at all that you feel maligned and unfairly treated, and maybe you have been.

I would hope that in your ordeal you availed yourselves of your Congressman, because that is one of his roles—to get the details, to understand the problem, and be somewhat your advocate in cases where you have been mistreated or poorly treated by a Federal agency.

I'll just give you one small example. I had a constituent that was taken to a magistrate for my district to St. Paul—about 200 miles. He was tried, found guilty of converting a wetland, fined $500, and ordered to replace a wetland. What he had done was he had two little pieces of wetland that comprised about two acres of land or less—and I'm a farmer, so I understand some of this. And I have what is called a "prairie pothole region." This came not through the Corps but Fish and Wildlife under what is known as "perpetual easements," and that perpetual easement says, "Thou shalt not fill, drain, or change the topography in any way, shape, or form. Thou shalt farm that land forever in its current state."

You are farmers. You understand this. You want to square off a field. So he excavated a piece next to the one wetland, placed it in the other wetland, and had, in the end, the same amount of wetland. But he was forced to then excavate the land he filled and refill the wetland he created because the law says, "Thou shalt." Ludicrous. Absolutely ludicrous.

The problem was he didn't come to me before the fact; he came after he had gone through the court. Once he had gone through the court there wasn't much I could do for him. I fought like the devil.

But I have been on countless scenes similar to what you talked about and have helped farmers. I haven't dealt so much with the Corps as I have with Fish and Wildlife on these perpetual easements.

We have a law suit currently pending in my district in Stearns County—the Corps of Engineers versus Stearns County—on drainage ditches. I'm told that the court is going to rule in favor of Stearns County and the farmers on maintaining ditches.

I have told the Corps I hope that they don't pursue this because they have a battery of attorneys that are on retainer constantly, all the time. It doesn't matter whether they are in court or not, they are still getting paid. Stearns County can't afford to go through that appeals process. But I expect they probably will appeal, and maybe in the end they will win and it will cost Stearns County and those farmers a horrendous amount of money.

But I hope that you have taken your case to your Congressman and explained to him, because he can better understand. He better understands the local situation, he better understands the State laws. I'm sure Mr. Harvey is working hard for some of you.

We value your testimony to the point that it will make—that we have got to have a clear understanding of the law and we ought to be more responsible to write a law that is clear so the regulations fit what we intend in the long run.

Ms. McAtee, I'm sure you are going to be following this session, and maybe Mr. Harvey and Mr. Maslyn, as to what we do as we proceed. When we get done, we want something that is acceptable to the preservation of wetlands, on one hand, but also respecting private property rights on the other. I think you have heard we're talking now about making wetlands eligible beyond what is already being done. Wetlands are now eligible for CRP under rules and regulations of the Department of Agriculture, and we intend hopefully to put that into law so that a farmer or a landowner can put land in a CRP and receive some compensation.

In the case of Mr. Pozsgai, based on what I have heard here—and I don't like to make preliminary judgments based on cursory information—I hope that you get him out and you get some redress for him. It doesn't make sense to me but there, again, we don't have enough of the information to prejudge those kinds of things.

But your testimony has been important. It has been helpful. I hope that you leave here with my apology that we can't get into more depth in each of your concerns. We just don't have that time, plus we don't have the understanding without being able to be on site or familiar with what you went through.

In your case, Ms. McGowan, I would expect that in your development of your aquaculture the law is probably very clear that you can't straighten a creek, and yet you probably did no more harm than my farmer who put fill from one spot into another and created a wetland, yet had to put it back because the law is the law. But those kinds of things are things that I have said time and again. It is nice that this memorandum of agreement supposedly has flexibility. We've got to, in the law we write, make some flexibility, on one hand; on the other, we can't have flexibility to the point where people can circumvent the law to do harm to wetlands where wetlands shouldn't be harmed. There has to be a middle ground and an evenness in application so that we have, on one hand, wetlands parotection; and, on the other hand, that we don't have the taking of private property that, if the public at large benefits from wetland, then the public at large will have to help support that wetland.

I don't think we'll get one argument from any environmental group on that position. I think they are willing to do that. I'm sure they are. They recognize the value of these wetlands, and I don't think they want to have the burden and the cost of wetlands placed on the backs of just one segment of society.

So I want to thank you for coming. We are going to struggle with it, and we hope that you leave here today satisfied that you have had a fair hearing.

I just urge you, if you haven't brought your Congressman's attention to your problem, that you make a point of that because that is part of the service that we are supposed to provide as Members of Congress. We have caseworkers to deal with these kinds of concerns and problems in our district.

Did you have something you wanted to add, Mr. McGown?

Mr. McGown. Yes. The one thing that has always bothered me on this: you take a farm that you have had for a long time and you bought it for a home and a farm. You put every dollar that you have come up with for 15 or 20 years into one thing. All of the sudden you have a change of Administration, the President wants to go this other route.

I've got my farm bought contract for deed. If I give the Corps of Engineers what they want off of my property I'll be in a law suit on the other side. There is no way of winning. I'd be giving away something that I don't even legally own yet until it is paid off.

I bought that for a home. I lack very little bit of having it done. There should at least have been a grandfather clause back there if we started under this other route and we were working all the time trying to go towards the goal that we weren't going to get into this type of persecution.

My goal has never changed since 1981 when I bought the farm. It is exactly the same.

Mr. STANGELAND. Well there, Mr. McGown—and that's why you have to see your Congressman and talk to him. I can't and we can't respond to the specifics because we don't know just exactly where you are located—

Mr. McGOWN. When you're talking about your politicians, you go through your politicians and they are virtually helpless against these guys because they don't budget. Whenever your politician goes up against them they just snub their nose and go right on. They just send them a letter of whatever they want to hear and that's the way it goes and then they just beat it back and forth. But it finally gets to a point—what are you going to do whenever you've got one or two Congressmen in the State or two Senators and they come up against the Corps of Engineers? They are virtually helpless unless you take it to Congress and get the law changed, and they have told us that straight to our face. They said, "Well, I guess you're going to have to get the law changed."

My family is living on $12,000 a year now. What chance do I have of changing the law up here? And that $12,000 isn't coming from the Government.

Mr. STANGELAND. Your Congressman, knowing intimately your problem, has a prime opportunity to try to affect the change in the law.

Mr. McGOWN. You're talking years.

Mr. STANGELAND. But let me tell you, sir, that these agencies do listen to Members of Congress. They do grant some time for some change in attitude. They are an outstanding advocate for you. We don't succeed all the time. Don't get me wrong. We can't defend you and win every complaint that a constituent has against the Federal Government. But you've got to give them a chance, and then they take the information that you give them and they can translate it to us here as to what we ought to write in the law.

And when we call in the agency for oversight on their application and administration of the law, we can raise the question. If they think you have been treated unfairly, we'll raise the question that this agency hasn't been fair.

Many times if you can get beyond the first level of bureaucracy out on the local level and you get up to the region or the national—and I've taken many cases that have been denied at the local, denied at the region, to Washington and gotten some consideration when I talk to the policy-maker out here.

We don't win them all, but that's where you have to start. We can't write the law based on your particular problem because we can't understand your problem in this short time we have.

Mr. McGown. I understand what you're trying to say there, but our local level—our SCS man was even threatened over my property and wanting findings changed by the Fish and Wildlife Department and several other things. We have been threatened for two years to go to court, and finally we sued them to try to get the harassment to end. If nothing else can happen, at least make it to where we can get to court. This law was set up to where there was no way that you were supposed to get to court unless they want to take you there. I never did anything wrong, and I know I haven't done anything wrong. I had politicians tell me I didn't do anything wrong. But still I am subjected to—in two or three years you can take a person and put him in bankruptcy or whatever. We have been at it now for close to two and a half years. We have been going through politicians, just like the one tape said. When you get your politicians involved, then you are supposed to be up against stiffer penalties or whatever. It was on the tapes there a while ago. That's what the EPA said.

So if we can't get the politicians to act fast enough there are going to be a lot of us that go broke out here in the country because of this.

I have had——

Mr. Stangeland. Let me assure you, if any Federal agency threatens any of my constituents because they talk to me, there is going to be damn hell to pay down here, boy. Don't ever you worry.

Mr. McGown. The head of the Fish and Wildlife Department of the State of Missouri was fired because of this already. That's what Senator Bond told me. They were ordered to have meetings in Brookfield which were public meetings. They wouldn't even answer a public question in public. It ended up that you'd ask a question and you'd have to go back behind the counter to get your answer when it was all done. That's how our public meeting ended up. They never even wrote the thing down. People that wrote questions down never even got an answer back.

Mr. Stangeland. Let me say thank you for coming. We can have this dialogue I'm sure into the night and not get us anywhere.

But I want to thank you. Rest assured that we will be working as diligently as we can to bring up a fair law.

Thank you, Mr. Chairman.

[Mr. Maslyn's prepared statement appears on page 1108.]

[Mr. Harvey's prepared statement appears on page 1030.]

[Ms. McGowan's prepared statement appears on page 1122.]

[Mr. Gerbaz's prepared statement appears on page 1024.]

[Mr. McGown's prepared statement appears on page 1135.]

[Mr. Moseley's prepared statement appears on page 1158.]

[Ms. McAtee's prepared statement appears on page 1116.]

[Mr. Burnier's prepared statement appears on page 1003.]

[Mr. Kamenar's prepared statement appears on page 1094.]

Mr. Nowak. Thank you very much.

The only further bit of information is that our next hearing will be March 13th, to continue this subject. We'll stand in recess until then.

[Whereupon, at 5:03 p.m., the subcommittee recessed, to reconvene on Tuesday, March 13, 1990.]

PREPARED STATEMENTS

REMARKS OF

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VICE PRESIDENT AND GENERAL COUNSEL
OF
THE ARVIDA COMPANY

Submitted to

THE WATER RESOURCES SUBCOMMITTEE

OF THE HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE

Congressional Oversight Hearing

February 28, 1990

10:00 a.m.

REMARKS BEFORE THE WATER REESOURCES SUBCOMMITTEE OF THE HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE

FEBRUARY 28, 1990

MR. CHAIRMAN, MEMBERS OF THE COMMITTEE,

I AM APPEARING BEFORE YOU TODAY IN MY CAPACITY AS VICE PRESIDENT AND GENERAL COUNSEL OF THE ARVIDA COMPANY. ARVIDA IS A COMMUNITY DEVELOPER, WHICH HAS, OVER THE LAST 30 YEARS, DEVELOPED IN EXCESS OF 50 COMMUNITIES ACROSS THE UNITED STATES. FOR THE LAST NINE MONTHS WETLANDS, AND IN PARTICULAR, THE 404 PROGRAM, HAS BEEN THE MOST SIGNIFICANT ITEM ON OUR DEVELOPMENT AGENDA. IT HAS EASILY OCCUPIED IN EXCESS OF 65% OF MY TIME AS I AND OUR OUTSIDE CONSULTANTS ATTEMPT TO STEER THE COMPANY THROUGH THE MAZE THAT IS 404. PRESENTLY WE HAVE COMMUNITIES UNDER DEVELOPMENT IN FLORIDA, GEORGIA, NORTH CAROLINA, TEXAS AND CALIFORNIA.

IN COMING BEFORE YOU TODAY, I WOULD HOPE TO BEGIN TO LOWER THE TONE OF THE RHETORIC THAT TENDS TO SURROUND A DISCUSSION OF THESE ISSUES. I WOULD HOPE TO CHANGE THE PERCEPTION THAT THOSE OF US WHO ARE DEVELOPERS ARE NECESSARILY OPPOSED TO THE PRESERVATION AND ENHANCEMENT OF THE ENVIRONMENT. ARVIDA HAS BEEN, AND WILL CONTINUE TO BE RESPONSIVE TO, AND DEVELOP PROJECTS WHICH ARE ENVIRONMENTALLY SENSITIVE, AND ARVIDA HAS AND WILL CONTINUE TO SUPPORT LEGISLATION WHICH REGULATES THE DEVELOPMENT OF REAL PROPERTY WHERE SUCH LEGISLATION EQUITABLY BALANCES THE COMPETING CONCERNS OF ENVIRONMENTAL PROTECTION AND ECONOMIC DEVELOPMENT.

AND I CAN STATE THAT WE SUPPORT THE PRESIDENT'S GOAL OF NO NET LOSS OF WETLANDS VALUES.

HAVING SAID THAT, HOWEVER, IT IS EQUALLY IMPORTANT TO RECOGNIZE THAT WE ARE CONVINCED, AFTER SIGNIFICANT EXPERIENCE, THAT THE 404 PERMITTING SYSTEM IS ILL-CONCEIVED TO ACCOMPLISH THE PRESIDENT'S GOAL. IF WE ARE TO ASSUME THAT THE LONG RANGE GOAL OF THE 404 PROGRAM IS NOT ONLY TO MAINTAIN THE EXISTING INVENTORY OF WETLANDS FUNCTIONS AND VALUES, BUT IS ALSO TO RESTORE, ENHANCE AND CREATE WETLANDS, THEN THE PRESENT SYSTEM IS NOT GOING TO CONTRIBUTE TO THE SOLUTION.

IMPLICIT IN THIS ANALYSIS IS THE ASSUMPTION THAT THE 404 PROGRAM IS NOT INTENDED AS A TOOL FOR GROWTH MANAGEMENT; THAT THERE IS NO HIDDEN AGENDA WHICH SUGGESTS THAT IF YOU STOP DEVELOPMENT YOU HAVE, BY DEFINITION, IMPROVED HABITAT VALUES AND WETLANDS FUNCTIONS.

WE BELIEVE THAT EFFECTIVE AND WORKABLE PUBLIC POLICY IS BEST SERVED WHEN THE REGULATORY EFFORTS ARE DIRECTED TOWARD MANAGING THE PROCESS SO AS TO PERMIT PLANNED DEVELOPMENT IN A WAY WHICH RECOGNIZES THAT ENVIRONMENTAL VALUES ARE PART OF SOUND LAND PLANNING.

IT SEEMS SIMPLE, BUT IT NEEDS TO BE STATED AGAIN AND AGAIN, THAT DEVELOPMENT IS NOT INHERENTLY ANTITHETICAL TO ENVIRONMENTAL

VALUES GENERALLY AND WETLANDS VALUES SPECIFICALLY. TO SUGGEST THE CONTRARY, AS IS OFTEN DONE, IS A FALSEHOOD.

IN SAYING THAT; I DO NOT MEAN TO SUGGEST THAT THERE HAVE NOT BEEN AND EXAMPLES OF DEVELOPMENT WHICH HAS UNNECESSARILY SACRIFICED ENVIRONMENT VALUE. BUT I DO MEAN TO PROMOTE THE NOTION GOING FORWARD, THAT IF THE PROCESS CAN BE MADE WORKABLE, THERE MUST BE AN OPPORTUNITY TO ENCOURAGE AND OBTAIN SIGNIFICANT CONTRIBUTION FROM THE PRIVATE SECTOR TO ASSIST IN ACHIEVING THE GOAL OF NO NET LOSS.

FOR THAT TO OCCUR, THE EXISTING SYSTEM NEEDS ADJUSTMENT. AS IT STANDS PRESENTLY, THE APPLICANT ENTERS AN ARENA WHERE MULTIPLE AGENCIES WITH OVERLAPPING, AND IN SOME INSTANCES, CONFLICTING AGENDAS, SCRUTINIZE YOUR APPLICATION. THE PROCESS IS ALMOST ALWAYS, AND PARTICULARLY IN RECENT WEEKS, CHARACTERIZED BY PROTRACTED INTERAGENDY DEBATES OVER WHAT TO DO AND HOW TO DO IT. THERE IS NO MECHANISM IN PLACE TO ASSURE THE TIMELY, COST EFFECTIVE PROCESSING OF YOUR APPLICATION, AND THE STRUCTURE ASSURES THAT THE PROCESS WILL BE LENGTHY. WE HAVE APPLICATIONS THAT ARE STILL PENDING AFTER 19 MONTHS, AND NO END IS IN SIGHT. WE BELIEVE IT WOULD BE FAR SUPERIOR IF, IN THE REVIEW OF THIS PROGRAM, THE FULL RESPONSIBILITY FOR THE GRANTING OR DENYING OF A 404 PERMIT, WAS PLACED WITH ONE AGENCY. OTHER AGENCIES SURELY COULD COMMENT, BUT WITHOUT ANY POWER TO VETO. WE THINK THE LIKELIHOOD OF BRINGING RATIONALITY AND ACCOUNTABILITY TO THE

PROCESS WILL BE MATERIALLY ENHANCED IF ONE AGENCY HAS ULTIMATE RESPONSIBILITY.

WHAT IS REQUIRED IS PREDICTABILITY AND ACCOUNTABILITY. THE GOVERNMENT MUST BE REQUIRED TO RESPOND IN A TIME CERTAIN MANNER UNDER PREDICTABLE GUIDELINES. UNDER THE PRESENT SYSTEM ONE CANNOT SUBMIT AN APPLICATION WITH A SENSE OF WHEN THE APPLICATION WILL BE ACTED UPON. THERE IS NO REQUIREMENT ON EITHER THE CORPS OR THE EPA TO RESPOND TO AN APPLICATION IN A TIME CERTAIN MANNER.

YOU MUST UNDERSTAND, IN THIS REGARD, THAT THE SYSTEM YOU THINK YOU HAVE ENACTED IS NOT THE SYSTEM WHICH CONFRONTS THE APPLICANT AT THE STAFF LEVEL. AT THE STAFF LEVEL IT IS BEST CHARACTERIZED AS AN ADVERSARIAL SYSTEM. IT IS NOT A FORUM FOR PROBLEM SOLVING, BUT ALL TOO FREQUENTLY CAN BE CHARACTERIZED AT BEST, BY ARBITRARY RULINGS, OR AT WORST, NO DECISION AT ALL. WE RECOGNIZE THAT PROGRAM IS NOT DESIGNED, NOR SHOULD IT BE, TO GIVE THE APPLICANT CARTE BLANCHE, BUT FOR IT TO WORK THE GOVERNMENT MUST APPROACH THE APPLICANT WITH EQUANIMITY AND WITH A VEIW THAT WE CAN MUTUALLY SOLVE THE PROBLEM OF NO NET LOSS.

THIS PROBLEM HAS BEEN FURTHER EXACERBATED BY THE RECENTLY ADOPTED MOA OF FEBRUARY 7, 1990 WHICH MANDATES A SEQUENCING APPROACH TO MITIGATION. THE MOA DOES THIS NOTWITHSTANDING THE FACT THAT NEITHER THE 404(b)(1) GUIDELINES, NOR THE PUBLIC INTEREST REVIEW NOR THE CEQ REGULATIONS PRESCRIBE A SEQUENTIAL APPROACH TO

MITIGATION REVIEW. INDEED THE GUIDELINES THEMSELVES (40 CFR 230.50) RECOGNIZE THE ITERATIVE NATURE OF MITIGATION. SEQUENCING IS A MITIGATION CONCEPT ADVOCATED BY THE EPA AND OTHERS, THAT CALLS FOR AVOIDANCE FIRST, MINIMIZATION OF NON-AVOIDABLE IMPACTS SECOND, AND FINALLY, COMPENSATION OF ALL REMAINING UNAVOIDABLE IMPACTS. IF YOU DO NOT PASS THE FIRST STEP, YOU ARE NOT ALLOWED TO PASS TO THE NEXT ONE. AS IT IS APPLIED AT THE APPLICANT REVIEW LEVEL, I CAN STATE CATEGORICALLY THAT SEQUENCING HAS BECOME A RATIONALIZATION FOR "NO FURTHER INQUIRY".

WHAT DO I MEAN? OUR EXPERIENCE HAS BEEN THAT IF THE BIOLOGICAL REVIEW TEAM OF THE EPA DOES NOT FEEL IN ITS UNFETTERED DISCRETION THAT THE APPLICANT HAS SIGNIFICANTLY OR APPROPRIATELY AVOIDED IMPACTS, YOU NEVER REACH THE QUESTION OF MINIMIZATION OR COMPENSATORY MITIGATION. THE RESULT IS THAT UNLESS THE APPLICANT CAPITULATES TO THE AVOIDANCE CRITERION, THE PROCESS GRINDS TO A SCREECHING HALT, EVEN IF THE PROJECT TAKEN AS A WHOLE WOULD IMPROVE THE TOTAL VALUE OF THE WETLANDS ECOSYSTEM.

IT IS OUR CONVICTION, THAT IF THE PROCESS IS TO WORK, THEN THE APPLICANT'S TOTAL PROPOSAL SHOULD BE REVIEWED CONCURRENTLY SO THAT THE IMPACT OF THE APPLICANT'S PROPOSAL CAN BE GAUGED IN ITS TOTALITY, RATHER THAN PIECEMEAL. TO DO OTHERWISE RESULTS IN REVIEW OF A GOVERNMENT HYBRID OF THE APPLICANT'S PROPOSAL RATHER THAN THE ONE SUBMITTED BY THE APPLICANT.

GIVEN THE CONSTRAINTS OF SEQUENCING, WE HAVE FOUND THAT ADMITTEDLY IMPROVED ECOLOGICAL SOLUTIONS TO WETLANDS MITIGATION MUST BE IGNORED IN ORDER TO PAY HOMAGE TO AVOIDANCE.

IF WE ARE SERIOUS ABOUT ENHANCEMENT, RESTORATION AND CREATION OF WETLANDS VALUES, THEN YOU HAVE TO DO MORE THAN AVOID -- YOU HAVE TO DEVELOP ORGANIZATIONAL AND OPERATIONAL CHARACTERISTICS WITHIN THE 404 PROGRAM THAT RECOGNIZE MITIGATION AS A MEANS TO RESOLVE THE CONFLICT BETWEEN DEVELOPMENT AND STRICT PRESERVATION.

ESSENTIAL TO MITIGATION'S ROLE IN NO NET LOSS IS THE NOTION THAT NOT ALL WETLANDS ARE OF EQUAL VALUE TO THE ECOSYSTEM. WE BELIEVE THAT GUIDELINES CLASSIFYING WETLANDS BY CATEGORY AND TYPE NEED TO BE DEVELOPED AND CONGRESS SHOULD ADDRESS THIS POINT. THIS WOULD ALLOW THE APPLICANT TO UNDERTAKE HIS LAND PLAN, KNOWING AT THE FRONT DOOR WHICH WETLANDS MUST BE AVOIDED AND WHICH WETLANDS CAN BE UTILIZED IN DEVELOPMENT, PROVIDED APPROPRIATE COMPENSATORY MITIGATION IS UNDERTAKEN.

WHAT IS APPROPRIATE IN A GIVEN CASE WILL DEPEND ON THE VALUE OF THE WETLANDS. OBVIOUSLY, WETLANDS OF PRISTINE OR HIGHEST QUALITY MAY NOT BE DEVELOPABLE. ON THE OTHER HAND, WETLANDS OF LOW OR MID-RANGE QUALITY WOULD BE DEVELOPABLE WITH APPROPRIATE MITIGATION BASED ON QUALITATIVE AS OPPOSED TO QUANTITATIVE CONCERNS. THE FUNCTIONAL VALUES LOST BY FILLING SHOULD BE COMPARED TO WHAT IS REPLACED THROUGH MITIGATION.

TO FURTHER AUGMENT THIS PROCESS, WE BELIEVE THE GOVERNMENT AND PRIVATE SECTOR, CAN AND SHOULD, CREATE LARGE MITIGATION BANKS. WE SHOULD BE ABLE TO ASSIST IN THIS ENDEAVOR BY CONTRIBUTIONS OF CASH OR ACREAGE OR BOTH AS CREDITS FOR LAND TO BE FILLED. SUCH A SYSTEM IS ANALOGOUS TO IMPACT FEES IMPOSED NOW BY SOME STATE AND LOCAL GOVERNMENTS, AND WHILE NO ONE IN THIS INDUSTRY THINKS SUCH FEES ARE ALWAYS EQUITABLE, THEY HAVE, PROVIDED A METHOD FOR INFRASTRUCTURE FUNDING THAT HAS SERVED THE PUBLIC INTEREST.

FROM ALL THAT WE CAN LEARN, REGIONAL MITIGATION BANKS ARE A PREFERRED SOLUTION TO SMALL, ISOLATED WETLANDS. FURTHER, THIS CONCEPT PROVIDES A MECHANISMS FOR COMPENSATING AN OWNER FOR PROPERTY LOST AND AVOIDS WHAT IS ALMOST SURELY TO BE AN ERA OF INCREASED LITIGATION; OVER THE TAKING OF ONE'S PRIVATE PROPERTY.

ARVIDA STANDS READY TO COMMIT SIGNIFICANT RESOURCES TO BE A FULL PARTICIPANT IN THE GOAL OF NO NET LOSS, BUT TO DO SO, WE MUST BE PERMITTED TO UTILIZE OUR RESOURCES TO DEVELOP AND SELL REAL ESTATE AT A REASONABLE PRICE AND UNDER REASONABLE MARKET CONDITIONS.

IF THE GOAL OF THE WETLANDS POLICY UNDER 404 IS TO ENHANCE, RESTORE AND CREATE WETLANDS SO AS TO REACH THE GOAL OF NO NET LOSS FROM A BENCHMARK ESTABLISHED WITH THE ANNOUNCEMENT OF THE PRESIDENT, THEN ENHANCED CREATIVITY AT THE PERMITTING LEVEL MUST

RECOGNIZE THAT DRAWING A LINE IN THE SAND WILL NOT GET THE JOB DONE. WHAT IS NEEDED IS A SYSTEM THAT IS AT THE OUTSET PREDICTABLE; THAT YOU CAN NAVIGATE THROUGH IN A TIMELY AND COST EFFECTIVE WAY. ADDITIONALLY, IT MUST BE FAIR AND RECOGNIZE THAT THERE ARE ECONOMIC AGENDAS AND SOCIETAL VALUES WHICH HAVE A BONA FIDE PLACE ON THE AMERICAN AGENDA AND THAT THOSE COMPONENTS CAN AND MUST BE INTEGRATED INTO THE SYSTEM IF WE ARE TO HAVE A HOPE OF ACHIEVING THE GOAL.

WE BELIEVE IT CAN BE DONE, BUT IT WILL REQUIRE A RE-THINKING OF THE PROCESS AND A WILLINGNESS TO LOOK BEYOND THE SHRILLNESS OF THE RHETORIC; IT WILL REQUIRE A WILLINGNESS TO RESTRIKE THE BALANCE. FOR OUR PART WE ARE EAGER TO BE PART OF THE SOLUTION -- WE ASK FOR THE OPPORTUNITY.

FINALLY, I HAVE FILED NOT ONLY THESE REMARKS BUT A DETAILED POSITION PAPER SUGGESTING IN SPECIFIC TERMS TECHNIQUES AND PROCEDURES FOR RETOOLING THIS PROGRAM TO ACCOMPLISH THE ADJUSTMENTS SUGGESTED HERE.

THANK YOU.

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Wetlands Conservation:
A Vital Public Mission in Search of
Sensible Regulatory Practice

Statement of

ARVIDA COMPANY

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Submitted to

the Water Resources Subcommittee

of the House Public Works and Transportation Committee

Oversight Hearing

February 28, 1990

10:00 A.M.

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I. INTRODUCTION

Nearly everyone today recognizes that wetlands are an important natural resource. Arvida Company ("Arvida"), an industry leader for over thirty years in the development of planned residential and resort communities, long ago appreciated the importance of wetlands and has built wetlands values into its planned communities for years. Arvida supports wetlands conservation and the Administration's goal of no overall net loss of wetlands values and functions.

Arvida is a national community developer of over fifty communities located in Florida, California, Texas, North Carolina, and Georgia. Our projects typically range in size from 400 acres to in excess of 12,000 acres. Build-out of these communities takes anywhere from four to five years to as long as 15 years and requires, in many instances, a commitment of financial resources in excess of one hundred million dollars. Arvida presently has under development communities that have a combined value of approximately one billion dollars.

Arvida and other community developers are in a unique position to enhance wetlands values at the same time they are engaged in activities that promote economic growth. If they are allowed to do what they are in business for, namely to develop planned communities, Arvida and others can contribute resources to preserve and enhance wetlands, making no net loss achievable.

To implement the no net loss objective, however, Arvida believes that the Nation needs to develop a workable regulatory system that balances the goals of regulation with those of economic growth. The system must focus, as state and local regulatory systems do, on working with the regulated community to create solutions that serve environmental goals while accommodating other legitimate societal needs. To this end, Arvida proposes several improvements in the wetlands regulatory system.

First, the Section 404 process must recognize that not all wetlands have the same ecological value. Wetlands vary in their functions and values, and these differences must be considered in determining where development will be allowed and what type of compensatory mitigation will be required.

Second, the regulatory system must be comprehensible and provide predictable outcomes under reasonable timetables. By providing predictability, the regulatory system will allow for prudent business planning by landowners. This will in turn allow the regulated community to contribute its available resources to enhancing wetlands values as part of the development process. A dedicated fee structure for permit applicants is one way to provide resources so that the regulatory system can operate in a speedy and efficient manner.

Third, the system must recognize that wetlands restoration and creation have been and can be achieved in practice. The system must recognize that compensatory mitigation can help to achieve no net loss of wetlands resources, and thus can serve as a primary means for harmonizing the goals of wetlands conservation and economic growth.

Fourth, the system must be better integrated with state and local planning processes in order to eliminate overlapping and sometimes conflicting regulatory schemes.

II. THE CURRENT REGULATORY SYSTEM

The current Section 404 program is a peculiar hybrid which has grown out of the combination of the historic regulation by the Army Corps of Engineers ("Corps") of obstructions to navigation under Section 10 of the Rivers and Harbors Act of 1899, 33 U.S.C. § 403, and the environmental concerns of the Clean Water Act, 33 U.S.C. § 1251 et seq. Under the current regulatory system, the Corps issues permits for the "discharge" of dredge or fill material in "waters of the United States." These waters are defined by regulation to include wetlands. Permit applications are usually processed in three steps: pre-application consultation (for major projects), formal project review, and decision-making. The Corps reviews the permit application, applying the standards set forth in the public interest review regulations, 33 C.F.R. § 320, and other agency guidance documents. In addition to satisfying the Corps' public interest review, the project must also satisfy the section 404(b)(1) Guidelines developed by the Environmental Protection Agency ("EPA"). In the course of reviewing the permit application, the Corps will also delineate the boundaries of the wetlands involved. During the permitting process, interested parties and other government agencies may comment on the permit application. In addition, the state in which the wetland is located must certify that the proposed activity will not adversely affect the water quality of the state. 33 U.S.C. § 1341.

There are no enforceable deadlines for Corps permitting decisions. Moreover, EPA, although it is not primarily responsible for permitting, retains ultimate authority and can veto any decision by the Corps to issue a permit. 33 U.S.C. § 1344(c). EPA may invoke this authority at any time, even after the Corps makes the decision to issue the permit, and even if no permit application is pending. EPA can also step in during the permitting process and take over the Corps' role in delineating wetlands. EPA also retains ultimate enforcement authority for violations of Section 404, including unpermitted fill activities. 33 U.S.C. § 1344(n).[1]

Many states have their own wetlands regulation programs with which landowners must comply, in addition to complying with the federal Section 404 program. Moreover, virtually all state and local governments have land use planning processes which include consideration of many environmental factors, including wetlands protection, as well as important non-environmental issues.

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[1] In addition to the individual permit program discussed above, there is also a nationwide permit program which authorizes certain classes of activities that pose only a minimal threat to water quality. 33 C.F.R. § 330.

III. PROBLEMS

A. The Origin Of The Section 404 Program And How We Got To Where We Are Today

A fundamental weakness of the Section 404 program is that the regulatory system which operates under the rubric of Section 404 bears little relationship to the purposes of the Clean Water Act ("Act") of which it is a part. The original purpose of the Clean Water Act was not to protect wetlands as such. Rather, the purpose of the Act was "to restore and maintain the chemical, physical and biological integrity of the Nation's waters." 33 U.S.C. § 1251(2). To that end, Congress prohibited the "discharge" of "any pollutant" from "a point source." 33 U.S.C. §§ 1311(a), 1362(12). Indeed, wetlands are barely mentioned in the Act and received little attention during its drafting. Section 404 was concerned primarily with the open water disposal of dredged material, and the Corps' role in operating the Section 404 program grew out of its historic role in regulating obstructions in navigable waters.

Because the Clean Water Act was never intended to regulate wetlands, it is not well-suited to the task it is now asked to serve. Concepts such as "point source" and "discharge," which were developed to regulate the activities of factories and municipal wastewater treatment plants that discharged pollutants into rivers, lakes and oceans, do not really address the threat to wetlands.[2] The result is a system that has grown out of a framework that was designed to address other issues and that as a result is without firm statutory direction.

At the same time, the focus of the Clean Water Act has widened from protection of navigable waters that sustain commerce to protection of all waters, including wetlands. The result has been greatly expanded jurisdiction for the Section 404 program. This expansion has been accompanied by a growing tendency among federal staff to use the Section 404 program as a tool for growth management, thus removing it even further from its original purpose. The Act cannot, in good faith, be twisted to serve this purpose. The purpose of the Clean Water Act is to protect water quality, not to regulate growth as such. State regulatory agencies, which are more actively engaged in land use planning and are comparatively more sophisticated in planning principles, are better suited to perform this growth regulation function.

If Congress sees the need for a federal growth management or a comprehensive land use statute, Congress should confront the issue directly. If, on the other hand, the real goal is wetlands conservation, Congress should reexamine the system that has developed for regulating wetlands and should address the anomalies and inequities that have been created. The resources and initiative of the regulated community can be enlisted to conserve wetlands. Arvida and others are ready to join in the effort; but Congress must improve the system to ensure that the regulated community has the opportunity to do so.

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[2] An illustration of this problem is that to include activities in wetlands within the purview of Section 404, the plain meaning of the terms in the statute have been twisted so that a bulldozer that dumps earth on a site can be a "point source" that "discharges" a "pollutant." U.S. v. Robinson, 570 F. Supp. 1157 (M.D. Fla. 1983). Courts have gone so far as to construe the activity of removing vegetation from a wetland as the "discharge" of a "pollutant" in an attempt to make the language of the statute applicable to activities that impact wetlands. See Avoyelles Sportsmen's League, Inc. v. Alexander, 473 F. Supp. 525, 532 (W.D. La. 1979).

B. Specific Areas of Concern

In order to create a process in which the regulated community can meaningfully participate, the Clean Water Act and the Section 404 regulatory program must be restructured and refined. The areas we have identified as requiring attention can be divided into three major topics. First, the definition of wetlands and the resulting scope of the regulatory program must be clarified. Second, the system must be modified to allow for the consideration of wetlands values and must make those values a factor in decision-making. Third, the permitting process must be improved. These topics are discussed more fully below.

1. The scope of the Section 404 program has expanded to affect nearly all proposed development activities.

The geographic scope of the Section 404 program has expanded gradually, but steadily, over the years to the point that it now far exceeds the original conception of Section 404. This has occurred as a result of expanding federal jurisdiction under the Clean Water Act as well as widening notions of what qualifies as a wetland under the Act.

a. The increase in the scope of "waters of the United States"

The Clean Water Act was enacted in 1972 as the Federal Water Pollution Control Act Amendments for the purpose of protecting the "waters of the United States." Section 404 of the Act regulated discharges of "pollutants" into "navigable waters." 33 U.S.C. §§ 1344, 1362(12).[3] The term "navigable waters" was defined at § 502(7) of the Act only as "waters of the United States." 33 U.S.C. § 1362(7).

The original Corps regulation defined "waters of the United States" to mean traditional navigable waters. 33 C.F.R. § 209.260 (1972).[4] In United States v. Holland, 373 F. Supp. 665 (M.D. Fla. 1974), the court held that jurisdiction under the Act extends to wetlands[5] beyond the traditional "navigable waters" of the United States. The following year, in Natural Resources Defense Council v. Callaway, 392 F. Supp. 685, 686 (D.D.C. 1975), the court construed Section 404 to include non-navigable waters, and ordered the Corps to amend its regulations accordingly.

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[3] The term "pollutant" includes "dredged spoil . . . rock, sand, cellar dirt . . . discharged into water." 33 U.S.C. § 1362(6). The "discharge of a pollutant" means "any addition of any pollutant to navigable waters." 33 U.S.C. § 1362(12).

[4] Substantially this same language still defines the limits of the jurisdiction of the Corps under the Rivers and Harbors Act of 1899, 33 U.S.C. § 401 et seq., to regulate activities involving modifications to navigable waters, e.g., piers, wharfs, jetties, breakwaters, etc.

[5] The term "waters of the United States" includes wetlands. 40 C.F.R. § 230.3(s); 33 C.F.R. § 328.3(a)(1987).

The Corps amended its regulations in 1977, adopting the current definition of "waters of the United States" used by both the Corps and EPA in implementing the Section 404 program:

> (1) All waters which are currently used or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
>
> (2) All interstate waters including interstate wetlands;
>
> (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
>
> (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
>
> (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
>
> (iii) Which are used or could be used for industrial purpose by industries in interstate commerce;
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> * * *
>
> (5) Tributaries of waters identified in paragraphs (a)(1)-(4) of this section;
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> * * *
>
> (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1)-(6) of this section.

42 Fed. Reg. 37112, 37144 (July 19, 1977) (codified at 40 C.F.R. § 230.3(s); 33 C.F.R. § 328.3(a) (1987)). The 1977 regulations

further defined "adjacent" wetlands to include wetlands that are "bordering, contiguous or neighboring" to waters of the United States. 42 Fed. Reg. 37144. By not including a spatial limitation that defined what could or could not constitute an "adjacent wetland," the 1977 regulations left the reach of the Corps' jurisdiction couched in ambiguous terms.

In addition, the 1977 regulations extended the Corps' jurisdiction under Section 404 to "isolated waters," i.e., waters that are not hydrologically connected to other waters of the United States, but which nevertheless have the necessary impact on interstate commerce. The Corps and EPA have since interpreted these regulations as covering "isolated waters" whose only connection with interstate activity of any kind is that they are or could be used by migratory birds. See 51 Fed. Reg. 41206, 41217 (Nov. 13, 1986).[6] Thus, Section 404 jurisdiction has been expanded to include virtually every wetland in the country, regardless of size, location or connection to navigable waters.

b. The expanding definition of wetlands

The regulatory definition of wetlands has expanded in a similar manner. The term "wetland" is not defined in the Clean

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[6] There is no requirement that such waters be used for nesting or breeding or even feeding, nor is this standard limited to waterfowl or other birds associated with water features. Under this interpretation, if a robin crossed a state line and alighted, however briefly, on a bush or tree in a small wetland area before moving on, that area would come under federal jurisdiction.

Water Act.[7] In 1974, the term wetlands was defined as "those land and water areas subject to regular inundation by tidal, riverine, or lacustrine flowage." 39 Fed. 12115, 12121 (April 3, 1974). In response to the court's decision in N.R.D.C. v. Callaway, supra, the Corps eliminated the requirement that the wetland be tied to a traditional navigable water. 40 Fed. Reg. 31320, 31324 (July 25, 1975). In 1977, the Corps adopted its present definition of wetlands:

> Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

42 Fed. Reg. 37112, 37144 (July 19, 1977) (codified at 33 C.F.R. § 328.3(b)).[8]

Because of the vagueness of the definition of wetlands and the resulting difficulty of identifying and delineating them in the field, the Corps began in about 1980 to develop a manual for identifying and delineating wetlands under the regulatory definition. EPA eventually undertook independent efforts to develop its own manual. Both agencies used the so-called "three parameter approach." That is, for an area to be classified as a wetland, there had to be positive evidence of three identifying characteristics--hydrophytic vegetation, hydric soils and a wetlands hydrological regime. See, e.g., Avoyelles Sportsmen's League, Inc. v. Marsh, 715 F.2d 897, 907 (5th Cir. 1983). However, each of the manuals was developed independently of the work carried out by the other agency, and neither was subjected to public notice-and-comment procedures. The result was two manuals, both purporting to define the same wetland, but using different methodologies that led to inconsistent results.

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[7] The term is only mentioned once in Section 404, in the section describing state administration of the permitting program. 33 U.S.C. § 1344(g).

[8] This definition was formally adopted by EPA in 1980. See 45 Fed. Reg. 85344, 85346 (Dec. 24, 1980) (codified at 40 C.F.R. § 230.3(t)).

After years of uncertainty, the Corps and EPA finally agreed on a joint manual in 1989 which adopted an even more expansive methodology for identifying wetlands than either the Corps or EPA had used previously.[9] For example, vegetation that normally occurs in uplands may now be considered indicative of wetlands conditions. Pp. 56-58. Moreover, the Manual no longer requires independent evidence of periodic saturation; instead, saturation may be inferred based on the type of soils that are present. Like the previous efforts, this Manual also was adopted without public notice and comment. As a result, the Act now regulates areas far different from the coastal marshes and forested swamps that spring to mind when one hears the term "wetland"; it regulates clay-lined depressions in the middle of cornfields and the banks of drainage ditches--in other words, virtually everyone's backyard.

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[9] Interagency Committee for Wetland Delineation. 1989. Federal Manual for Identifying and Delineating Jurisdictional Wetlands. U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and U.S.D.A. Soil Conservation Service, Washington, D.C.

Thus, because more areas now qualify as wetlands and because Section 404 now covers virtually all wetlands, Section 404 has become omnipresent in any building project.

2. The regulatory scheme fails to acknowledge that all wetlands are not equally valuable

A vital element that is missing from the current Section 404 program is a recognition of the variation in wetlands values. Such a recognition would mean that the Section 404 program could be more flexible, preventing development in wetlands of higher value while allowing needed development in lower value wetlands in return for creation of new wetlands value.

All wetlands are not created equal. There are a number of different functions associated with wetlands. For example, wetlands may provide any of the following functions: flood storage, flood conveyance, waterfowl production, wetland aesthetics, fisheries and food chain functions, pollution control, groundwater recharge and discharge, and heritage or archaeological functions.[10] Different wetlands perform these functions in varying degrees, depending on location and condition of the wetland. Moreover, the value of a wetland may vary depending on the region of the country and the abundance and types of wetlands in that region.

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[10] See generally Adamus et. al, Wetland Evaluation Technique (WET) Volume II: Methodology (October 1987). The WET manual outlines a method for the assessment of wetlands functions--the physical, chemical and biological characteristics of a wetland--and wetlands values--those characteristics that are beneficial to society.

Despite the importance of assessing wetlands values, the present regulatory system does not incorporate such an assessment into the permitting process. The Section 404(b)(1) Guidelines, which the Corps applies as part of the permit process, make no distinctions among the different values of the wetlands to be affected by the issuance of the permit. The Guidelines instead narrowly focus on "practicable alternatives" and provide that "no discharge of dredge or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have a less adverse impact on the aquatic ecosystem."[11/] 40 C.F.R. § 230.10(a). The same alternatives analysis is applied regardless of the value of the wetland involved. Thus, because the Guidelines are controlling,[12/] the values of the wetland are not a meaningful part of the permitting process, thereby

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[11/] The regulations further explain than an alternative is practicable if it is "capable of being done" taking into account "cost, technology and logistics in light of overall project purposes." 40 C.F.R. § 230.10(a)(2).

[12/] See 33 C.F.R. § 320.4(a) ("For activities involving 404 discharges, a permit will be denied if the discharge that would be authorized by such permit would not comply with the Environmental Protection Agency's 404(b)(1) guidelines.")

foreclosing the type of flexibility which would better serve the goal of no net loss of wetlands values.[13]

The recent Memorandum of Agreement ("MOA") between the Corps and EPA concerning mitigation[14] incorporates some very limited recognition that differences in wetlands can appropriately affect permitting standards. The MOA creates a "sequencing" requirement whereby permit applicants must first demonstrate that they have avoided wetlands to the maximum extent practicable before the Corps is allowed to consider the applicant's efforts to minimize and compensate for proposed wetlands impacts. However, the MOA creates an exception to the sequencing requirement where expected environmental losses are insignificant, thus allowing applicants who propose to fill wetlands of marginal value some regulatory relief. This limited exception represents a beginning, but the concept that permitting standards may vary according to the value of the affected wetland must be carried further.

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[13] The Corps' "public interest review" process recognizes some distinctions among wetlands. In conducting its public interest review, the Corps considers the various functions served by the wetland under review, including natural biological functions, natural drainage characteristics, storm and flood water storage capacity, groundwater discharge and recharge ability and significant water purification functions. 33 C.F.R. § 320.4(b). In addition, the Corps considers whether a type of wetland is "unique in nature or scarce in quantity to the region or local area." 33 C.F.R. § 320.4(b)(viii). However, since the applicant must also satisfy the Guidelines, and the Guidelines do not acknowledge such distinctions, the public interest review has little real effect on the permitting standards.

[14] Memorandum of Agreement Between the Environmental Protection Agency and the Department of the Army Concerning the Determination of Mitigation Under the Clean Water Act Section 404(b)(1) Guidelines, February 6, 1990.

3. Uncertainty and delay have made chaos of the permitting process

Given the number of players and the various requirements, the Section 404 permit program is like a maze for many permit applicants. They enter the process not knowing how to get to the end or how long it will take to get there. Part of this confusion is due to the fact that several federal agencies and the states have roles in implementing the Section 404 program. This participation varies from commenting on various types of permits to the detection of unpermitted activities and the enforcement of permit requirements.

In addition, the substantive requirements of the permitting program are not clearly set forth. For example, the concept of "practicable alternatives," which is central to the determination of compliance with the Section 404(b)(1) Guidelines, is vague and inconsistently applied. To offer just one example, as part of the Section 404(b)(1) Guidelines inquiry, the permitting agency must determine whether an alternative site is available. EPA uses a "market entry theory," i.e. it looks to see whether alternative sites were available at the time the developer entered the market for the site, rather than evaluating whether there were alternative sites at the time the developer applied for the permit. In a challenge by a developer to EPA's interpretation of this phrase and the developer's request for a clarification of the phrase, the Second Circuit opined: "We are persuaded . . . that it is unnecessary to pin down the standard to such a degree and that it would confuse things further to attempt to do so." Bersani v. Robichaud, 850 F.2d 36, 46 (2d Cir. 1988).

In addition to the problems created by vagueness of the terminology, the Corps and EPA have created additional confusion by applying the "practicable alternatives" analysis differently. A report prepared by the United States General Accounting Office[15] offers several examples of different applications of this one test. The report discloses:

> According to EPA officials in Region VIII, the Corps and EPA differ on the meaning of basic project purpose and the manner in which practicable alternatives should be considered. EPA looks at project purpose in a broad sense, which provides more project alternatives, whereas the Corps' more narrow viewpoint provides fewer alternatives to proposed projects. The EPA officials view practicable alternatives from an environmental standpoint even when such alternatives are more costly to the applicants, whereas the Corps places more emphasis on the economic impact from the applicant's standpoint, EPA officials said.[16]

The fact that the responsible agencies may interpret the "practicable alternatives" analysis in different ways puts the permit applicant in the untenable position of not knowing under what standard its project will be judged.[17]

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[15] GAO, Wetlands: The Corps of Engineers' Administration of the Section 404 Program. July 1988.

[16] Id. at 27. The Department of Commerce and the Fish and Wildlife Service also offered examples of how agencies apply the practicable alternatives analysis differently.

The Corps and EPA also sometimes differ on other aspects of the Section 404 permitting program. Currently the Corps and EPA share regulatory authority under Section 404. In addition, EPA can also request that a permit decision by a Corps district be reviewed by higher authorities in the Corps. The Corps is the permitting agency, but EPA has veto authority over any permit decisions by the Corps. The result is that the federal government often lacks a single voice that can provide definitive answers. This is sometimes exacerbated when agency staff members choose to speak out on their own on a particular proposed project, so that there are inconsistent voices even within a single agency.

Moreover, until recently the Corps and EPA based their jurisdiction on different methodologies for determining wetlands jurisdiction. See pp. 10-12, supra. As a result, the boundaries of a given wetland area could differ, depending on what manual or methodology the investigator was using. Now that the Federal Manual for Identifying and Delineating Jurisdictional Wetlands has been issued, this problem may be diminished in the context of federal permitting. However, there is considerable overlap and conflict between existing federal and state standards and permitting requirements. The potential for conflicting demands on an applicant from the state and federal regulatory agencies is enormous. A landowner is likely to go through state and local planning and permitting procedures first, at which time he modifies the project in response to state and local concerns and gives up whatever concessions he can to obtain approval. By the time the applicant is ready to seek a permit from the federal government, he has little ability to negotiate over the basic elements of the project and may well have exhausted his options as to concessions.

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[17] An example is the dilemna of the Hartz Mountain Industries, which was proposing to build 3,300 housing units in meadowlands in Secaucus, New Jersey. Hartz had considered a 471-square mile area in doing its alternatives analysis. The acting EPA Regional Administrator told the Newark Star-Ledger that, while Hartz need not look as far as Nevada, it had not looked far enough afield for alternatives. The regional administrator did not indicate where between Secaucus and Nevada Hartz should end its search. See reprint of article attached hereto.

Moreover, state and local land use planning goals often are inconsistent with the goals of the federal wetlands program. In those cases, the permit applicant is stuck in the middle, having already obtained approval and, in many cases endorsement, of the project only to have it vetoed on the federal level because of some larger regulatory scheme.[19] When this happens, the

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[19] As noted by the National Wetlands Policy Forum:

> [I]n some cases the chief problem is the number of relevant but often competing programs that reflect a wide variety of values and purposes. No single agency is likely to have complete or final authority over wetland-use decisions. Overlapping programs often require multiple permits with multiple reviews. A positive signal from one agency may be followed by a

(continued...)

developer is often faced with a substantial financial loss based on the difference between what the property is worth with federal approvals and what it is worth without them.

IV. SOLUTIONS

The best way to achieve no overall net loss of wetlands values and functions is to make some fundamental changes in the way wetlands are regulated by the federal government. Congress and the regulatory agencies should enact changes that engage the regulated community in the process of enhancing wetlands values while channeling development in ways that are environmentally acceptable.

A. The System Must Recognize That Differences Among Types Of Wetlands Can Properly Affect The Permitting/Mitigation Process

The time has come for the differences in wetlands values to become an integrated part of the Section 404 permitting process. While there may have been understandable policy concerns in the early days of the Section 404 program which justified ignoring these differences, those concerns are no longer sound. When the Federal Water Pollution Control Act Amendments were enacted in 1972, the philosophy that wetlands were more of a nuisance than a valuable natural resource still held sway in many quarters.

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[18] (...continued)

> contrary response from another. In the meantime, any constructive planning is stymied.

The Conservation Foundation. Protecting America's Wetlands: An Action Agenda, The Final Report of the National Wetlands Policy Forum (1988), p. 36.

However, there is now widespread public consensus that wetlands are important resources that are worthy of protection. As a result, there should no longer be concern that wetlands will not be regulated to the fullest extent of the law. Indeed, the trend has been very much in the opposite direction. As discussed above, see pp. 9-10 supra, the scope of regulation has expanded to include nearly all wetlands regardless of their connection to traditionally navigable waters. The definition of wetlands has similarly expanded to include substantially greater numbers of areas. The result is that there are few development projects of any appreciable size anywhere in the country that are not found to include some wetland areas and that are thus subject to regulation under Section 404. In addition, the expanded scope of Section 404 has brought within the program areas that are very different in terms of function and quality.

As a result, it no longer makes sense to apply the same level of regulation to all wetlands. Adhering to a universal rule that avoids development in all wetlands, including low value wetlands, makes little ecological sense, especially when the regulated community can replace those wetlands with higher value wetlands. Unless Congress elects to narrow the reach of Section 404 to minimize differences in regulated wetlands, the regulatory system must take account of those differences.

Wetlands should be categorized as to value on a regional basis. Within each region, wetlands should be assigned to one of four categories: pristine, high, medium, and low. In assigning wetlands to categories, the government[19] should consider a number of factors, including wetland type, function, location, abundance, condition and status of adjacent upland areas upon which the wetland is functionally dependent. Wetlands should be assigned to the various categories in fixed percentages, e.g., 20% pristine, 30% high, 30% medium and 20% low. This will correct for any bias of the regulated community to assign all wetlands to a lower value category as well as any bias of regulators to assign all wetlands to a higher value category. Evaluations should be binding on the federal government.[20]

The value category should affect the stringency of the alternatives analysis and the mitigation requirements. Pristine wetlands should not be subject to filling. For high value wetlands, the alternatives analysis should be strictly applied and substantial mitigation requirements should be imposed. For medium value wetlands, a less stringent alternatives analysis should be applied that allows consideration of the proposed mitigation in determining whether there are practicable alternatives that would have less adverse impact. For these wetlands, mitigation requirements should be imposed which ensure that, at a minimum, no net loss of wetlands values is achieved, with an emphasis on restoration or creation of wetlands. Projects impacting low value wetlands should be exempt from the alternatives analysis, although some form of mitigation[21] should still be required for such projects to ensure no overall net loss of wetland values and functions. The "sequencing" requirement of the MOA, which is not required by statute or regulation and which would foreclose these types of considerations, should be eliminated.

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[19] Because the wetlands would be characterized on a regional basis, the state agencies could take the lead on assigning value to wetlands.

[20] This concern is not without foundation. Arvida has experienced a situation in which EPA commissioned an analysis of the values of a particular wetland, portions of which Arvida had proposed to fill. The analysis, which was conducted by the Corps using established techniques, indicated that the values of the wetland were generally low to moderate. EPA subsequently stated that it would ignore the analysis and treat the wetland as if its value were high.

Basing Section 404 permitting decisions on the values of wetlands would serve the needs of development and conservation. Such a system would effectively prohibit development in high value wetland areas, while allowing needed development in lower value wetlands in return for mitigation that would preserve and even enhance wetlands values.

B. Procedural Reforms Are Necessary to Make the Regulatory System More Rational

In order to engage the development community and harness its energy and resources in the effort to achieve the goal of no overall net loss of wetland values and functions, the regulatory process must be made more orderly and rational.

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[21] The term "mitigation" as it is used in the MOA, includes a number of different concepts, such as avoiding impacts, rectifying impacts, reducing impacts over time and compensating for impacts. These definitions of mitigation are derived from the regulations of the Council on Environmental Quality at 40 C.F.R. § 1508.20.

1. A single federal regulatory agency should be designated

The Section 404 permitting program should be under the jurisdiction of a single federal permitting agency. That agency should be responsible for the permitting process from beginning to end. Other federal agencies should be given the opportunity to comment on permit applications, but no agency should have veto power. This will allow applicants to deal with one set of federal decision-makers and will result in greater predictability for applicants.

2. State and federal permitting procedures should be harmonized

Many states and local governments have their own wetlands regulations.[22] Project sponsors often find that they spend months satisfying the state and local standards, only to be confronted with conflicting requirements of federal regulators. The Act currently contains a provision for state assumption of federal permitting authority which would help address this concern. 33 U.S.C. §§ 1344(g), (h). However, states have been reluctant to assume permitting authority because there is no federal funding to offset costs of assumption and because states cannot assume responsibility for the entire program.[23] See Protecting America's Wetlands, pp. 19-23. Steps must be taken to encourage states to assume permitting authority (as in other areas of federal environmental law) or, if that is unsuccessful, to unify the federal, state and local permitting processes so that applicants will be able to look to a single set of criteria.

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[22] See, e.g., Massachusetts Wetlands Protection Act, Mass. Gen. Laws Ch. 131, § 40; New Jersey Freshwater Wetlands Protection Act, N.J. Stat. Ann. § 13:9B-1-30.

[23] In fact, only one state--Michigan--has assumed Section 404 permitting authority.

3. The system must be streamlined

The permit process needs to be streamlined and to have firm deadlines for action by both the applicant and the permitting agency. In particular, deadlines should be imposed for:

- completion of a definitive wetlands delineation;
- a determination by the federal regulatory agency that a permit application is complete; and
- final action by the federal regulatory agency on an application once the public comment period has ended. This time limit would run from the day on which the applicant submitted responses to public comments.

Default provisions should be added for failure to meet these deadlines. Failure to meet a deadline should result in issuance of a permit. In order to achieve these goals, the federal permitting agency must have sufficient resources. A dedicated fee structure should be established whereby applicants would pay fees which would provide the federal agency with the manpower to carry out its obligations in a timely manner.

In addition, landowners and project proponents must have a better mechanism for determining the extent of federal wetlands jurisdiction on any given parcel of property so that the interests of federal regulatory bodies can be taken into account early on in the planning stages of a project. One way to achieve this is for the federal regulatory agency to establish a program to certify individuals who are trained to do wetlands delineations. Once certified, a delineator would be able to identify and delineate wetlands using prescribed standards and methods. A determination by a certified delineator could be reviewed by the federal regulatory agency within stated time limits, but it would have a presumption of correctness. Once a determination is approved by the federal regulatory agency, it would be binding on the federal government for a reasonable period of time that would reflect the anticipated life of the applicant's project.[26]

Moreover, the federal regulatory agency should explain how permitting standards are applied in individual cases. In particular, when the federal regulatory agency denies a permit it should provide an explanation of how the deficiencies could be remedied so that a permit could be issued; alternatively, it could provide a statement that no permit could be issued under any circumstances because the wetland at issue is too valuable. This would help ensure consistency in application of standards.

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[26] The Memorandum of Agreement Between the Department of the Army and the Environmental Protection Agency Concerning the Determination cf the Geographic Jurisdiction of the Section 404 Program and the Application of the Exemptions Under Sectin 404(f) of the Clean Water Act, January 19, 1989, states that jurisdictional determinations will be binding. At Section II, Section VIA. These provisions should be codified.

4. There must be reasonable predictability in the regulatory standards applied

The standards that govern the procedural and substantive aspects of the Section 404 permitting program should be clear to all concerned. To accomplish this end, the Corps and EPA should develop a clear set of rules using the notice-and-comment rulemaking procedures of the Administrative Procedure Act so that the regulated community can provide input on how proposed regulations would impact them before the regulations are issued in final form.

In particular, the government should provide further guidance on the meaning of "practicable alternatives" so that the regulated community will have a clearer understanding of how the "alternatives" analysis, which is critical to the permit process, will be applied in a given case. The federal government should likewise provide guidance on the meaning of "project purpose" and on mitigation policy, both of which play key roles in wetlands regulation. The wetlands delineation manual should be subject to the rulemaking process as well.[25/]

[25/] The Corps and EPA have recently agreed to conduct a rulemaking in one area of uncertainty, *viz*., the extent of Section 404 jurisdiction based on use of wetland areas by migratory birds. *See* U.S. Environmental Protection Agency, U.S. Department of the Army. Memorandum re: Clean Water Act Section 404 Jurisdiction Over Isolated Waters in Light of *Tabb Lakes v. United States*. January 24, 1990. Other such rulemakings should be initiated.

C. The Purpose of and Means for Mitigation Must Acknowledge the Importance of Economic Growth

No net loss of wetlands values does not mean that there can be no development in wetlands; it means that mitigation, creation and restoration of wetlands must be a vital part of the Section 404 permitting program. The development community has resources and expertise to contribute to help achieve this goal. For the goal of no net loss to be realistic, the system first must acknowledge that wetlands creation and restoration is possible, as Arvida and others have demonstrated at several recent projects throughout the country.[26]

At the same time, the system should avoid simplistic acre-for-acre mitigation standards in favor of more creative and flexible approaches to compensatory mitigation. For example, the system should recognize that restoration, preservation or creation of wetlands which serve functions different from the wetlands to be filled may be more environmentally beneficial for the area involved than strict adherence to an "in-kind" mitigation formula.[27] The system should encourage both public and private entities to contribute land (or cash to purchase land) that would be "banked" and could be used as mitigation for future wetlands projects. Finally, there should be an emphasis on adding to the inventory of wetlands areas in public hands. Cash contributions toward the purchase of high value wetlands in return for development rights in low value wetlands will ensure perpetual protection of high value wetlands and will help ensure that landowners are not deprived of all economic value in their lands.

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[26] For example, Arvida has successfully restored and/or created wetlands at its Coto de Caza project in Orange County, California, at its Weston Project in Broward County, Florida, at Water's Edge in Atlanta, and at Heathrow in Orlando, Florida.

[27] Likewise, the system should reward the preservation of upland areas that are outside of federal regulatory jurisdiction upon which wetlands are ecologically dependent.

D. Federal Wetlands Regulation Should Be Harmonized with Local Land Use Planning

Finally, there should be some movement toward integrating local land use planning and federal permitting. State and local governments have traditionally reconciled competing demands on resources, such as wetlands, through the land use planning process. Land use planning is increasingly sophisticated and generally involves intense scrutiny of the environmental impacts of proposed developments. The result of these planning processes is land use management plans which represent reasonable accommodations of many conflicting goals. As part of these planning processes, local planning authorities have devised mechanisms, such as the developer agreements used in Florida and California, by which the regulators and the developers are both able to obtain long-term commitments which provide the type of long-term certainty which both sides need.

The federal government should recognize the value of local land use planning, respect its outcomes and learn to benefit from it. Rather than waiting until the local land use planning process is complete and then imposing requirements that may conflict with the careful accommodations made, the federal government should be part of the planning process from the beginning and be willing to abide by the outcomes in return for efficient use of its resources and long-term commitments from developers.

V. CONCLUSION

Our suggestions present concepts for a regulatory system which will more effectively serve the goal of no overall net loss of wetlands values and functions. Some of these suggestions will require statutory changes. Others will require changes in the regulatory system, while some will require only new approaches under existing authority. Arvida is committed to a process of implementing these goals through whatever means is necessary and is prepared to work with the government at all levels to realize them.

THE STAR-LEDGER, Thursday, November 24, 1988

EPA acts to block proposed 3,300 housing units in Secaucus meadows

By MICHAEL ROZANSKY

The Environmental Protection Agency (EPA) is battling a plan to build 3,301 housing units in meadowlands in Secaucus, seriously threatening the largest housing development proposed for the region.

The EPA's acting regional administrator, William J. Muszynski, said this week in a letter to three congressmen that Hartz Mountain Industries Inc. has failed to prove "that the proposed housing cannot be built elsewhere."

In addition, he wrote, Hartz's plan to compensate for destroying 97 acres of wetlands by upgrading the quality of 116 other acres of wetlands "is not sound environmental planning," in part because it did not create new wetlands.

The project, known as the Villages at Mill Creek, is awaiting approval by the Army Corps of Engineers, which is expected to decide next month whether to issue a dredge-and-fill permit. The EPA advises the Corps, but also can overrule the Corps — and has done so — on permit decisions.

The housing, a crucial part of the housing plan developed by the Hackensack Meadowlands Development Commission (HMDC) in the 20,000-acre district, would rise along the Mill Creek north of Route 3 and west of the eastern spur of the New Jersey Turnpike.

Muszynski said in an interview that he was convinced that Hartz failed to consider "obvious alternative sites" on dry land, such as Newark. "That's one that quickly comes to mind," he said.

"There are alternatives, and if the Corps moves forward and approves the permit, I will exercise my option" and seek to overrule it, he said.

His opposition was revealed in a reply to Reps. Robert G. Torricelli (D-9th Dist.), Robert A. Roe (D-8th Dist.) and Frank J. Guarini (D-14th Dist.). The three wrote EPA Administrator Lee M. Thomas in September seeking his support for the development, which they said would provide "urgently needed homes," including low- and moderate-income housing.

"From a social and economic standpoint," they wrote, "the impacts of this project are clearly beneficial."

The congressmen said Hartz proved that the project could not be developed elsewhere in the 471-square-mile region of Hudson, Bergen and Passaic counties. But Muszynski asked why Hartz limited its analysis to that area.

Asked how far Hartz should have looked, he said, "Obviously I don't expect them to look in Nevada, but it's got to be a case-by-case basis" in which developers show that their analysis is reasonable.

The HMDC has said alternatives should be within the Meadowlands district, which is its area of jurisdiction.

Alan Marcus, a Hartz spokesman, said the project is in accord with the HMDC's 1972 master plan, and addresses the region's housing and environmental needs.

"Ultimately the houses at Mill Creek will be built because it is needed, it makes sense, and it's the right thing to do," he said. "Even when public agencies oppose something, when something's the right thing to do, it gets done."

Hartz has spent millions of dollars to create a 63-acre salt marsh as compensation for taking wetlands for its Harmon Meadow office-shopping development in Secaucus.

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Thank you for the opportunity to give testimony as you consider the wetland issue.

My wife Mary, three of our six children, and myself moved to a farm in Pennsylvania in 1984. Mary had grown up on the farm and helped her father farm it and the surrounding land before going to school in Chicago, where we met and married.

In 1986 we bought an adjacent farm that had been farmed since the 1800's. An elaborate system of dikes, gates, and drains had been installed by the turn of the century to grow vegetables. The Websters then bought some cows in 1947. The neglect of Marsh Creek made the vegetable operation ever more risky, and the conversion to a dairy operation was completed. In 1969 the Websters updated their farm plan and at that time designated 50 acres, most of which had been prime cropland, for wildlife in exchange for government assistance in relocating the drainage ditches on remaining crop land. With the Agnes flood in 1972 Marsh Creek became clogged with trash and drainage became even more difficult. Due to health reasons the Websters sold their cows in 1978 and leased their land to Hazelton. The farm was then sold on contract to Oesterland who leased it to Thornton Dairy Farms.

Everyone said this was a good farm. The one drawback was because of the rich muck soil the ground becomes very unstable when it is saturated with water, and the ditches would have to be cleaned before the land could be worked. I knew about the cars, the tractor tires, the washing machines, the trees and other flood trash in Marsh Creek that causes this land to flood with any heavy rain, yet I was willing to clean the ditches by hand so that a flood would be temporary and the adverse effect on corn or hay would be acceptable. We purchased the land and I immediately began cleaning the ditches. I didn't punch a clock but I estimate I spent over 1,000 hours of back aching work cleaning them.

Then in the fall of 87 I started getting letters. First the Department of the Army sent me a letter saying I was in violation of section 404 of the clean water act by placing dredged fill material in wetlands, even though by their own definition I didn't put any fill anywhere.

Then I received a letter from E.P.A. saying I was in violation of Section 301 of the clean water act by discharging pollutants into the nations waters and that E.P.A. may pursue criminal prosecutions which may entail imprisonment and fines of $50,000 per day. I live downstream from the village sewer plant and I had the water as it came out of my ditch and as it came onto my property from upstream tested. The test showed that the water coming down the creek had 200 times as much, of what the laboratory called, fecal coliform as that coming out my ditch.

Then I received a Notice of Violation from DER saying I was in violation of section 693.6 of the Dam Safety and Encroachments Act where I opened my existing ditches. After being charged with filling and polluting I was told my crime was cleaning a ditch. Since 693.6 makes it a violation to maintain or abandon I am at a loss to know if I should clean or not clean all the old ditches on my farm. I even asked Roger Fickes if cleaning was maintaining, what was abandoning, and He didn't know.

I learned that this hay field was now considered a wetland. It mattered not that this field had been ditched for over 100 years. It mattered not that 50 acres of this farm was designated for wildlife in 1969 when the ditches in this field were relocated. It mattered not that the lawyer, the banker, the sheriff, the neighbors, the soil conservationist, and the widow Webster all thought it was a farm. It mattered not that I thought it was a farm and intended to use it as a farm.

Because such things as Disneyland, Cape Canaveral, the city of Chicago, etc. were built on wetlands we now have a shortage of them and so my hayfield is now become "public interest land".

I would also like to explain how a farm that had been continuously farmed had been declared a wetland. Mrs Webster told me they maintained the ditches until the land was leased in 1978. This field was separated from the rest of the farm by the creek and the renters just didn't bother with it. By the time the now widowed Mrs Webster regained control of the land the ditches had collapsed and formed swath like swales that supported cattails because of the springs that fed them.

A large pine tree fell into Marsh Creek and between the flood trash and the beavers a dam was created in the fall of 86 just below the ditch that drains the land Mrs. Webster still owns. The water then backed up this ditch and flooded both her land and mine with almost every rain until the dam was opened in 87. When I received the Notice of Violation saying I had drained 100 acres and my field was only 16 acres, I assumed I was getting credit for draining my neighbors land also. When I received the letter telling me to plug the ditches the diagram indicated my neighbors ditch should be plugged. Then I was told the diagram was in error and the ditch that is common to our properties is the one I should plug. Since my neighbor regularly planted corn there, I told him I had to plug it but I didn't care if he opened it back up.

I was told about flood planes, pollution, and wildlife habitat and I showed them that I was improving all of them. Then I was told that the ducks that spend the summer in Canada and the winter in Florida use my field to stop over on the way back and forth. Much of the 50 acres designated for wildlife is used by the ducks. We even bought a spotting scope so we could identify them as they migrate through.

Since the Game Commission is the designated Pennsylvania agency involved in the planning and accomplishment of Ducks Unlimited's wetland management program, and since D.U. believes it can control more land by regulation than by purchase, it follows that the Game Commission will exert pressure to regulate.

If wetlands are so important, and I've read that "our existence on this planet is dependent on wetlands", then the burden of maintaining them should be born by the public. I see no rational that dictates a farmer struggling to provide for his family be made to bear a burden created by others. Nor do I understand the Corps of Engineers selection process when the enforcement people ignore their own observations and prosecute on the information provided by the anonymous tipster.

On Sept. 22, 1988 DER mailed me a permit to clean and maintain existing drainage ditches in this field. On Nov. 1, 1988 Jacob Sitlinger of the Pa Game Commission wrote a letter to the Corps of Engineers recommending I be made to keep the ditches closed. On Nov. 7, 1988 Barbara D'Angelo from the EPA wrote the Corps "During the October 26 "(1987)" meeting a representative of the Pennsylvania Game Commission informed EPA that the Commission had been interested in purchasing the wetland due to its waterfowl habit functions and values." and recommended that I be made to keep the ditches plugged.

When I researched my deed in the courthouse I found that I have recorded rights to maintain drainage through my neighbors land as well as my own.

I do not oppose the government encouraging the protection of wetlands. If they would like to maintain the wetlands on their own land I would encourage them to do so. When the Government destroys wetlands to make a recreation area like Cowanesque and then tells me I have to give up the rights to my land I certainly feel compensation is in order. If my land is more valuable as wildlife habitat than it is as a farm then I simply ask where was the Game Commission when this farm was sold in 1986?

Certain groups would have you believe that I am antienvironment. This is not the case. In fact if you would have held this hearing 3 years ago I would have lined up with the Audubon Society or the Sierra club. But now I simply believe I have the right to use some of my land to raise cows. If the Game

Commission translated the 23rd Psalm, It would read - He maketh me to lie down in wetlands-. I for one feel more comfortable with the green pastures. As long as the Game Commision field people act as the eyes and ears for the enforcement agencies I feel it is necessary to protect property owners from the myopic, biased, and sometimes erroneous information that leads to unwarranted regulation of private property.

Thank you

Francis Burnier

R.D.4 Box 43C

Wellsboro Pa. 16901

Testimony
House of Representatives
Subcommittee on Water Resources
February 28, 1990

Wetlands Management Planning in Juneau, Alaska

City and Borough of Juneau, Alaska
155 S. Seward St., Juneau, Alaska 99801

Assemblyman McKie Cambell
Assemblyman John MacKinnon

I. FEDERAL CONTROL OF LOCAL LAND USE

LOCAL NEEDS, Developable Land

Juneau is located in Southeast Alaska. Like most of the state, a high percentage of flat land is classified as wetlands. In Southeast Alaska the coastal communities are located on a narrow coastal strip backed by high mountain ranges. This geography, combined with moist Pacific Ocean air creates a common weather system along the coastal mountain range from California north to Cook Inlet in Alaska. 100 inches of rain per year typifies this coastal strip.

Flat land is relatively scarse and with this much rain, most flat land is now classified as wetland. Juneau, as well as other cities on the west coast strip, have initiated efforts to work with federal resource agencies to determine which wetlands could be developed and which should be protected.

Our goal in developing a wetlands management plan is to protect our valuable wetlands and allow reasonable development on the least valuable ones. Juneau has strong environmental concerns. Even before passage of the Clean Water Act, Juneau set aside almost 4,000 wetland acres in the heart of its urban area as a refuge not open to development. We also have an active greenbelt acquisition program along our salmon streams which is financed by local general obligation bonds. We protect our environment by buying wetlands.

Here are the basic statistics:

> Juneau covers 3,100 square miles. The developed part of the City only occupies a small portion of this area. In this small portion there are 22,300 acres which are not developed. However, when wetlands and federal lands are subtracted out, there are only 3,200 acres available for development. There is simply an inadequate amount of land available for normal development.

According to the U.S. Chamber of Commerce cost of living index, Juneau ranks number 2 in the United States. Due to the lack of developable land, whenever there is demand for new housing it is reflected in inflated land and housing costs. Thus, there is an immediate need to develop some wetlands.

LOCAL NEEDS, Utility Planning

In addition, in order for the City to plan for the future it has to know where to build public facilities such as a water system and roads. The City is completing a $45 million water system. The problem is that it might serve lots which will always be vacant due to the fact that no one knows which wetlands if any might be developed in the future.

Over the last twenty years Juneau has invested over $100 million in water and sewer utilities. We are now told by EPA that much of the area served by these new utilities is classified as wetlands and thus cannot be developed. Instead, the EPA suggests that development be located in a virgin forest on the other side of a mountain ridge where there is no access or urban services.

PERMITTING, Boundary Determinations

[redacted] on a wetland must obtain local land use and zoning permits, and a Corps of Engineers discharge of dredge and fill permit. The two permit processes are completely separate and independent. This is typical for all urban wetland situations in the United States. However, in Juneau the process is particularly frustrating for applicants because the nearest Corps of Engineers Office is over 500 miles away in Anchorage, Alaska. The federal government has created a regulatory program without the resources to implement it.

Implementation problems fall into three categories. First, there is the problem of boundary determination. Once again, this problem is present in all urban wetland situations. The Corps of Engineers identifies wetlands by reviewing aerial photography supplemented by field verifications. The wetland boundaries are drawn using felt pens on aerial photographs. While this works fine for rural areas, it creates havoc in urban areas because it is impossible to determine where the boundaries are in relation to property lines. The Corps does not show wetland boundaries on maps.

Where property lines are in the vicinity of wetland boundaries applicants must request on site inspections. In Juneau, this means that the applicant has to wait several months until Corps personnel can fly down from Anchorage. In some instances the applicant does not know if his property is in wetlands and in other instances the applicant does not know which part of the property is wetlands.

The second problem created by the application of federal wetlands regulations to urban wetlands is that it takes years for an applicant to obtain a decision on a permit. There are three federal resource agencies, U.S. Fish and Wildlife, National Marine Fisheries Service, and Environmental Protection Agency which routinely recommend against issuance of any permit even if the project has received a coastal zone consistency determination from the State of Alaska under its federally approved coastal zone management plan. The agency objections often involve arguments that the applicant has picked an inappropriate site because there are alternative sites which would be less damaging to the environment if they were developed. This invokes the practicable alternatives issue. In urban areas, the determination of practicable alternatives involves knowledge of local land use. This is an area generally outside the expertise of the commenting resource agencies. The resulting arguments over practicable alternatives between resource agencies and local government can last for years on any permit for commercial or industrial activity.

The third problem is out right denial of permits and the chilling effect this has on community development. For example, permits for basic social service facilities have been denied because the resource agencies do not consider community needs. A permit for a trailer court which would have been subsidized by public funds to provide a residential alternative for low income families, was denied and the facility was never constructed although complete funding was in place. Another example is a training facility for the developmentally disabled which was denied a permit on a site which the municipality would have been able to provide at no cost.

While I speak, an application by St. Vincent DePauls to build a shelter for homeless families is being reviewed by the Corps. Several federal resource agencies have objected to the permit. Another example, is the problem we are having trying to locate a site for a new school. The money has been approved in a general obligation bond election and the proposed site is on City property. However, there is no access to the site unless a road is constructed along the edge of a wetland. We cannot access our own property and we cannot find a suitable alternative site. Eventhough the courts have firmly established that land use planning is the province of State and local governments, the federal government is deeply involved in land use planning in Juneau. A consequence of federal wetlands permitting in urban areas where wetlands are prevalent is a breakdown in land use planning and an endless bureaucratic maze.

II. SOLUTION, GENERAL PERMIT

JUNEAU WETLANDS MANAGEMENT PLAN, $250,000 Evaluation and Ranking

A general permit is a blanket discharge of dredge and fill permit issued in advance of a specific request by an applicant. The Corps of Engineers has authority to issue these permits where the cumulative impact of development of the permitted wetlands would be negligible or to avoid duplication with local regulations. The City of Juneau looks towards a general permit as the only viable solution to its land use problems.

We employed one of the Nations most respected wetlands biologists, Paul Adamus, to help prepare our wetlands plan. Mr. Adamus evaluated our wetlands to determine which ones should be protected and whidh could be developed with minimal harm to the environnment. Paul Adamus is now in charge of EPA research in wetlands enhancement and restoration. Juneau spent over $250,000 in local revenue for this comparative evaluation of wetlands making it our most expensive planning study ever undertaken.

JUNEAU WETLANDS MANAGEMENT PLAN, Inventory of Practicable Alternatives

In order to determine the need for development the City reviewed all our property tax files to determine how much of our vacant urban land has development potential. We now know precisely what our practicable alternatives are for each land use zone; commercial, industrial, low and high density residential.

JUNEAU WETLANDS MANAGEMENT PLAN, Public Hearings

We then conducted an extensive public hearings in each neighborhood to obtain community input into our wetlands management plan. At the conclusion of the hearings we drafted the Juneau Wetlands Management Plan which identifies which wetlands could be developed and which should be protected based on their environmental value and practicable alternatives. We believe that our plan is compatible with no net loss. Developers would be required to contribute to a mitigation bank which would be initiated by the City.

Our request for developable wetlands is very modest. We selected residential strips along road and utility corridors, a modest expansion of our industrial zone, and room for our local state university to complete its planned expansion. All anadramous fish stream corridors and high value wetlands are protected from development.

CORPS / EPA ADVANCED IDENTIFICATION, Preemption of Local Planning

In response to our efforts the Corps of Engineers and the Environmental Protection Agency invoked a little used authority to issue an advanced identification. Advanced identification is listed in the dredge and fill permit regulations as "Planning to Shorten Permit Processing Time"(404b(230.8)) In Juneau's case, the Advanced Identification consists of two major lists. The first one identifies all wetlands which have any practicable development potential as unsuitable for development. In other words, the federal government preempted our plan by saying that any wetland which we might be interested in would not be eligible to be considered for a general permit since it is now officially designated as generally unsuitable for development. To add insult to injury, the second list identifies wetlands which have no practicable development potential, such as mountain tops and a few scattered parcels including a City Park, as generally suitable for development.

In response to our protests, the head of EPA, William Reilly, wrote to our senior Senator, Ted Stevens, to say that the advanced identification is good for Juneau and it was initiated at the request of Juneau. Juneau, had in fact protested the Advanced Identification since it was first proposed. A copy of the correspondence between the City and Senator Ted Stevens and William Reilly is attached to this testimony. It is a clear demonstration of the irresponsibility of a federal agency as it totally runs over a good faith effort of local government to resolve problems associated with blanket application of federal regulations to our city.

CORPS / EPA ADVANCED IDENTIFICATION, Violations

The advanced identification reached its nonsensical conclusions by willfully ignoring the fact that Juneau has limited practicable alternatives. If the purpose of advanced identification is to expedite permit decisions, as stated in the discharge of dredge and fill regulations, then it is logical to consider practicable alternatives as specified in the general balancing process which is key to the permit system. Applicants cannot be given a clear expectation of their likelihood of obtaining a permit unless the advanced identification includes all the factors which the Corps of Engineers would consider when it actually reviews a permit. Thus, the advanced identification becomes a sham, a thin cover up for federal preemption of our general permit application. The bureaucrats have blocked our planning efforts.

In addition to the willful preemption of a local land use management plan, we believe that the advanced identification violated federal regulations and procedures.

1. The only written guidance on advanced identification is found in an EPA publication entitled "Use of Advanced Identification Authority, Draft Guidance to EPA Regional Offices". This document clearly states that practicable alternatives should be considered in an advanced identification. The Alaska EPA, headed by Al Ewing, refused to consider the lack of practicable alternatives to wetlands development in his Juneau advanced identification.

2. The dredge and fill permit regulations clearly state that where a practicable alternatives analysis exists it must be considered.(40.230.10(5)) Our practicable alternatives analysis was published before the advanced identification and was not considered.

3. Executive order 12630 was issued in direct response to the takings issue and inverse condemnation due to wetlands regulation. The executive order mandates that federal agencies use the least confiscatory alternative to accomplish their administrative directives and that they demonstrate that they have considered all alternatives. Clearly, the advanced identification has a takings effect since is lowers property values and it is the most restrictive alternative which the agency could have selected.

III. REQUESTED REGULATORY CHANGES

JURISDICTIONAL CONSTRAINTS ON ADVANCED IDENTIFICATION, State Approval

The current regulations state that the Corps and EPA must consult with the affected state prior to an advanced identification.(404B1,230.80) This language should be changed to require state approval of the initiation of an advanced identification. This would allow the state to protect against federal intrusion into local urban land use planning. The courts have firmly established that land use planning is the province of State and local government.

JURISDICTIONAL CONSTRAINTS ON ADVANCED IDENTIFICATION, Practicable Alternatives

The advanced identification regulations should clearly require that all factors which would be considered by the Corps of Engineers in the review of an individual discharge of dredge and fill permit must also be considered in the advanced identification. This is the only way to assure that advanced identification could accomplish its intended purpose to 'Shorten Permit Processing Time'. If only selected factors are considered in the advanced identification, applicants will be mislead.

GENERAL PERMIT CLARIFICATION, Application Requirements

The preamble to the latest revision of the discharge of dredge and fill permit regulations state that the use of general permits should be expanded to give the states more authority and responsibility and reduce conflicting and overlapping policies.(Federal Register 51 #219 Nov. 13, 1986) As a result, the clear direction from the head of the Corps of Engineers is to use general permits to help resolve wetlands problems. To help accomplish this goal, the discharge of dredge and fill permit regulations should specify the factors that the Corps of Engineers should review to determine if a general permit should be issued. The specific factors which should be considered are a comparative evaluation of wetland functions, and an evaluation of practicable alternatives to wetland development.

GENERAL PERMIT CLARIFICATION, Administration

The discharge of dredge and fill permit regulations do not specify how general permits should be administered. At one extreme, a general permit constitutes issuance of permit approval so that the applicant would merely have to file notice of intent to receive permission. At the other extreme, a local administrative body could be given authority to approve or deny an application for discharge of dredge or fill material. The regulations merely state that general permits may be designed to avoid duplication with existing state, local, or other federal agency programs.(325.5)

This vagueness increases federal resource agency anxiety over the issuance of general permits. General permits should have certain standard controls including criteria for the Corps of Engineers to approve the local administrative process and to retain veto authority over an individual local permit decision. In addition, all general permits should have a standard specified life.

We thank the Subcommittee on Water Resources for its invitation to present our story and for your consideration of our testimony. In closing, we would like to summarize our recommendations:

1. EPA should be directed not to use advanced identification to preempt a local planning effort. If a municipality takes the initiative to finance a wetlands management plan it should have the right to complete it and present its findings and any general permit requests to the Corps of Engineers without EPA preemption of the request.

2. The language in (404B1,230.80) should be changed to require state approval of the initiation of an advanced identification.

3. The advanced identification regulations should clearly require that all factors which would be considered by the Corps of Engineers in the review of an individual discharge of dredge and fill permit must also be considered in the advanced identification.

4. The discharge of dredge and fill permit regulations should specify the factors that the Corps of Engineers should review to determine if a general permit should be issued. The specific factors which should be considered are a comparative evaluation of wetland functions, and an evaluation of practicable alternatives to wetland development.

5. General permits should have certain standard controls including criteria for the Corps of Engineers to approve the local administrative process and to retain veto authority over an individual local permit decision. In addition, all general permits should have a standard specified life.

CITY/BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

January 26, 1990

The Honorable Ted Stevens
United States Senate
Box 20149
Juneau, Alaska 99802

Dear Senator Stevens::

Thank you for forwarding Colonel Kakel's October 18, 1989, letter regarding Advanced Identification. The City and Borough of Juneau (CBJ) is quite concerned about the Advanced Identification because contrary to our long standing plea, it was issued as a final document. We thought the issuing agencies had agreed not to issue a final document, and so the current situation is very disappointing. We are also anxious because it was presented to the public as an identification of areas which are "generally suitable for development." In fact, there is no meaningful amount of land identified by the Advanced Identfication as generally suitable which has any development potential. In essence, the Advanced Identification labeled mountaintops, and a few other equally useless areas as "generally suitable." The Environmental Protection Agency's public declaration that Advanced Identification benefits Juneau "because it identifies land suitable for development" is a substantial misrepresentation.

The Corps of Engineers (COE) and Environmental Protection Agency (EPA) did not even map their Advanced Identification, nor have they provided an acceptable rationale to support individual suitable/unsuitable designations. They have provided absolutely no background information on any wetland designation. This is in direct contrast to our Wetland Management Plan which discusses each designation in detail. It appears that they do not even know where their designations actually apply since they designated suitability classifications for existing developed public parks and lakes, and they designated several areas generally unsuitable even though the COE is currently issuing permits in these areas. We mapped their designations and Svend Eriksen reviewed the maps. The designations reflect general ignorance of local conditions and topography. Very little time or effort was put into Advanced Identification, and it could make a very expensive and responsible local planning effort meaningless.

1471/67/IW/db

155 South Seward Street Juneau, Alaska 99801

We believe that Advanced Identification preempts our planning process because Al Ewing, EPA Assistant Regional Administrator, told us that once a wetland is identified as generally unsuitable, we cannot receive a development designation or a general permit for that wetland regardless of our management plan! It appears that once a parcel is designated as generally unsuitable the COE will not consider it for a general permit. We fear that we can no longer receive a fair hearing on our plan because the Advanced Identification will be used to prejudge our general permit application. We have asked if Advanced Identification will be used to deny our general permit application on parcels which have been disignated as unsuitable. Neither the COE or EPA have replied to our written request for an answer to this important question.

The EPA continually states that the Advanced Identification only indicates a general direction not a final determination. If this is true, can they document any parcels of land in the United States identified as "generally unsuitable" that have subsequently been issued a dredge and fill permit? We are only aware of one instance of a permit being issued for a generally unsuitable wetland and that was for a gravel fire access road on the East Coast. As you may have guessed, we are extremely frustrated.

It has recently come to our attention that William Reilly of EPA wrote a letter to you on August 10, 1989, stating that the CBJ requested the Advanced Identification. Needless to say, this is just not true. To the best of our knowledge this is the only Advanced Identification ever undertaken which has not been requested by local authorities. A new precedent has been set.

Not only could Advanced Identification stymie Juneau's land use planning efforts, but it could discourage other Alaska communities from undertaking wetlands planning and seeking general permits. The Congressional intent to have the COE issue general permits will have been thwarted.

Finally, in their letter to you and in their final Advanced Identification document, the COE and the EPA did not mention that Advanced Identification is made possible by a sizable CBJ expenditure ($250,000) for environmental analysis as part of our Wetlands Management Plan. The COE has no financial involvement in the data collection and EPA gave us a small grant ($30,000). The project is a local initiative which would not have been undertaken had we anticipated a federal preemption of our efforts. It is incorrect for the COE and the EPA to suggest or imply that Advanced Identification is desired by this community, or that we are happy with the situation now. We are decidedly unhappy over the misuse of our data to create an Advanced Identification which preempts our Wetlands Management Plan and general permit application.

Mayor Bruce Botelho and the Assembly Wetlands Committee are available to discuss the situation with you at your convenience. We are also aware of the new "no-net-loss" goal and the pending Memorandum of Agreement between the COE and EPA. We are reviewing these issues and we will keep you informed.

Thanks as always, for your interest in this complex and difficult matter, and despite the matter at hand, all the best for the new year.

Sincerely,

Kevin R. Ritchie
City Manager

cc: Mayor Bruce Botelho
Assembly
Planning Commission
Environmental Protect Agency, Alaska
Corps of Engineers, Alaska
Alaska Division of Governmental Coordination

1471/6/IW/KR/lvs

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United States Senate
COMMITTEE ON APPROPRIATIONS
WASHINGTON, DC 20510-6025

October 26, 1989

Kevin Ritchie, Manager
City and Borough of Juneau
155 South Seward Street
Juneau, Alaska 99801

Dear Kevin:

Enclosed is a copy of a letter and information I recently received from the Corps of Engineers regarding the Advanced Identification of wetlands. I knew you would be interested in seeing the final document.

With best wishes,

Cordially,

Ted Stevens

TED STEVENS

Enclosure

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, ALASKA
P.O. BOX 898
ANCHORAGE, ALASKA 99506-0898

OCT 18 1989

REPLY TO
ATTENTION OF:

Regulatory Branch
Special Actions Section

Honorable Ted Stevens
United States Senate
Washington, DC 20515

Dear Senator Stevens:

I appreciate your past interest in the joint Enviornmental Protection Agency/Corps of Engineers (EPA/Corps) Advanced Identification of Suitability of Sites for the Disposal of Dredged or Fill Material (ADID) in the City and Borough of Juneau (CBJ), Alaska. I would like to take this opportunity to provide you with a copy of the final document and summarize our responses to commonly raised concerns about the Juneau ADID.

It is clear from the comments received that there are some misunderstandings regarding the intent and purpose of an ADID. An ADID is intended to facilitate more timely and predictable permit decisions for future applications to perform work in waters and wetlands under Section 404 of the Clean Water Act. The ADID classifications neither guarantee that a permit to fill will be issued nor that one will be denied. The purpose of the ADID is to provide guidance to landowners, developers and regulatory agencies regarding the presence or absence of important natural resource concerns that should be taken into consideration in proposals to develop wetland areas. The ADID and its classifications do not add additional permit requirements or restrictions or increase existing ones. If no permit was needed prior to the ADID, none will be needed after.

Effects on property values from the ADID and its wetland designations were also issues of concern. The ADID is advisory and informational only. Landowners should be aware that classification of a wetland as generally unsuitable for disposal does not equate with a permit denial. I believe that it is a benefit to existing and potential property owners to have the knowledge of where wetlands are located and what their functions and values are.

Concerns were also expressed that the ADID would interfere with the development of a local wetland management plan. EPA and the Corps recognize and support the need for a local planning effort to manage wetlands. It is mutually beneficial to the regulated public and regulating agencies to provide more timely and predictable permit decisions. I believe that the ADID should be a significant element in the development of a local plan. The ADID is not intended to circumvent ongoing efforts by the CBJ but to provide guidance and a "Federal viewpoint" which should be used in the development of the local wetland management plan.

I am forwarding a copy of this correspondence to your Anchorage office.

Thank you for your continued interest in the Juneau ADID. If you have any questions, please contact me directly. Should your staff have any additional questions, please contact Ms. Carol Gorbics of my Regulatory Branch, Special Actions Section, at (907) 753-2724.

Sincerely,

William W. Kakel

William W. Kakel
Colonel, Corps of Engineers
District Engineer

Enclosure

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON. D.C. 20460

AUG 10 1989
1989 [illegible] 18 [illegible] 10 15

THE ADMINISTRATOR

Honorable Ted Stevens
United States Senate
Washington, D.C. 20510-6025

Dear Ted:

Thank you for your letter of June 22, 1989, regarding the Advance Identification (ADID) study currently underway in Juneau, Alaska. As you are aware, the Alaska Operations Office of the U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (Corps), Alaska District, have been working closely with the City and Borough of Juneau in the development of an ADID study and Wetlands Management Plan. This joint effort was begun in 1986. Our efforts to cooperate with Juneau in this process are documented by the series of communications which have passed between the parties over the last four years and were provided to your office along with a copy of a letter from Mr. Alvin L. Ewing, Assistant Regional Administrator, Region 10, EPA to Mayor Bruce M. Botelho, dated February 9, 1989.

The primary concern expressed in your letter is that EPA and the Corps are moving too quickly with the final public notice for the Juneau ADID, and you requested that we defer that action until fall. In response to your request, our Regional Office is planning to delay the issuance of the final public notice until early fall in order to encourage additional dialogue between Juneau and the other participants in the ADID process. It is our hope that this additional time can be used to assure that the Wetlands Management Plan and the results of the ADID are consistent.

Your letter also conveys concerns voiced by local officials that the results of the ADID studies would impede Juneau's efforts to develop its own wetland planning document. It is our belief that these concerns are based on a misunderstanding of the nature and goals of the ADID process. ADID is a scientifically-based evaluation used by EPA, the Corps and other Federal, State and local participants in the process to identify possible future disposal sites and areas generally unsuitable for future disposal site specification. The ADID process uses scientific data to determine if potential fill activities in the wetlands under study would cause significant degradation and therefore would conflict with the environmental criteria in the 404(b)(1) Guidelines. These Guidelines are the regulations used in evaluating discharges of dredged or fill material under Section 404 of the Clean Water Act.

The identification of an area as a possible future disposal site or as generally unsuitable for disposal site specification under ADID is not a final determination relative to the 404 permitting process. As stated in the Guidelines (Section 230.80(b)), the identification of any area as a possible future disposal site under the ADID process should not be deemed to constitute a permit. Conversely, the identification of areas that generally will not be available for disposal site specification should not be deemed as prohibiting applications for permits to discharge dredged or fill materials in such areas. A final determination for any area is made based on the information provided by an applicant when requesting a Section 404 permit as well as relevant technical data collected through the ADID process.

A basic goal of ADID is to provide citizens with information that will assist them in making environmentally sound decisions regarding wetland resources. It is our belief that the data developed through the ADID process will benefit the public in making decisions that conform with the goals of the Clean Water Act and the national goal articulated by President Bush of no net loss of wetlands. Our best opportunity to achieve these goals is if the Wetlands Management Plan developed by Juneau and the results of the ADID process are consistent. Region 10 initiated its ADID effort, at the request of Juneau, in order to provide the technical and scientific base for wetland planning activities by the City. It is our hope that we can assist and work with Juneau in developing a Wetlands Management Plan that also meets these goals, and averts the potential confusion and permitting delays that could result from insufficient coordination among Federal and local agencies.

Thank you again for your interest in the development of the Juneau ADID and this opportunity to explain EPA's role. I hope my letter responds to your concerns. If you have any further questions concerning this matter please feel free to contact me or Mr. Alvin L. Ewing, Assistant Regional Administrator, Region 10 in Anchorage at (907) 271-5083.

Sincerely yours,

Bill

William K. Reilly

STATEMENT OF LARRY GERBAZ

My story is the story of three neighboring families who banded together to protect their lives, properties, and livelihoods from flooding from the Roaring Fork River. The families involved include my wife and three children, my cousins--Dennis and Nile Gerbaz--and Bob and Wanda Nieslanik. We all live on the south side of the Roaring Fork and about two miles northeast of Carbondale in Garfield County in Colorado. Since the 1950s, there has been a levee between the river and the property of Dennis and Nile Gerbaz and the property where my home, now former home, is located. My cousins have farmed their land for over 40 years.

A few preliminary observations are required about the Roaring Fork River. The Colorado River Basin is characterized by great fluctuations in water levels. This is a desert area but there are huge runoffs in the spring from snow melt. In 1984, there was even a danger that Glen Canyon Dam at Lake Powell would be lost. (See the Bureau of Reclamation's film, "Challenge at Glen Canyon.") In our specific area, the Roaring Fork is a dynamic river and the channel adjusts itself at each high flow. The Roaring Fork is also an aggrading river that deposits its flood sediment loads, giving rise to damaging effects. The river meanders, constantly cutting and filling its channel, changing its course, and creating gravel bars. The river is prone to flooding its plain during periods of high water discharge as occurs with the annual snow melt. Beginning in 1983, there were three cumulative years of heavy snow falls. Also, in 1983, the Roaring Fork, adjacent to our properties, aggraded as high water brought down rocks and materials which damaged the river's channel.

In the spring runoff of 1984, rain and melting snow swelled the Roaring Fork River. Upstream from us, flooding took out bridges in Aspen and in nearby Basalt, the river swallowed up part of Highway 82. In our stretch of the river, water was deflected from the north side of the river to our south side where flooding occurred. Over two acres of meadowland, belonging to Dennis and Nile Gerbaz, were lost to flooding. The topsoil on another two acres of their land was washed away. My home, which had stood for 80 years, was threatened. Water was within 20 yards of my house. Water was in my barn. Our jeep was parked in front of the house and a bag of clothes was near the front door in case of an emergency evacuation of my family, which included three children aged 4, 3, and four months. My fences were washed out and I could not keep my stock on the property, because my levee had been broken. I could not rebuild the fences until my levee was repaired. Water threatened to wash away calving sheds. Hay fields were flooded. Pasture was filled with debris. The river had actually carved a new channel in my pasture and into the irrigation facilities. After the flooding, I undertook to repair my levee, which had been put in place in the 1950s.

Before going further into the details of our flood experience and its aftermath, I need to digress to explain the man-made actions that contributed to the flooding: rechanneling the river, cloud seeding, and peak releases from a dam. The facts which I am about to relate will show that our actions have always been defensive. On May 21, 1984, the Sacramento, California Division of the Army Corps of Engineers issued the Ranch at Roaring Fork, a subdivision of homes and condominiums on the north side of the river, a Section 404 permit to repair levees. Although the permit application in block seven requests the "Names, addresses and telephone numbers of adjoining property owners, lessees, etc., whose property also adjoins the waterway," the Ranch answered the question as "None: All adjoining property to the water way belongs to the Ranch at Roaring Fork." The adjoining property owners on the south side of the river were never mentioned in the application and any work done on the river would naturally effect south side landowners. Instead of merely repairing levees, the Ranch performed unpermitted work. The Corps did not inspect the Ranch's work in 1984. To our knowledge, the work was first inspected some two years later in 1986. J. Gary Davis on May 8, 1986 in an Army Corps of Engineers Field Inspection Record, which we obtained through a Freedom of Information Act Request, stated that "Project appears to have turned into channelization and cutting off of secondary channels and meanders." In a May 19, 1986 letter to the Ranch, Wayne J. Scholl, Colonel, Corps of Engineers, District Engineer, of the Corps' Regulatory Unit #4 in Grand Junction requested that the Ranch:

> a. Remove all dredged material discharged below ordinary high water along the south bank of the Roaring Fork River to an upland disposal site confined to prevent re-entry to the river. b. Armor all repaired sections of the levees on the north bank of the Roaring Fork River with large angular stone. Alluvial cobble is not considered appropriate riprap. c. Revegetate all areas of the north bank of the Roaring Fork River disturbed by project activity with native trees, shrubs, and grasses. d. Construct six ponds as per your letter of February 21, 1984.

On December 5, 1986, Art Champ, Chief, Regulatory Section, Regulatory Unit #4, Grand Junction, wrote the Ranch:

> In our letter dated May 19, 1986, we specified what was needed to bring the work authorized by Permit Number 8483A into compliance. If the work, including the work required by the special conditions, is not diligently brought into compliance with the permit, then we may seek to revoke the permit which could lead to complete removal of all work. I advise you to notify our Grand Junction office of your intentions and proposed schedule for accomplishing our directives.

In a letter dated August 25, 1989, Dennis and Nile Gerbaz requested that 404 permit number 8483A issued to the Ranch be revoked. Their letter also noted that the Ranch closed a side channel on the Ranch's north side of the river and that closure resulted [in 1984 and 1985] in subsequent redirection of the main water flow toward the south side, seriously damaging dikes, levees, irrigation systems, while also eroding and flooding farm land, threatening homes, and buildings, etc. That August 25, 1989 letter stated that it appeared that at least one of the levees did not represent a bank reconstruction but a bank relocation. The Corps has taken no action on the August 25, 1989 letter.

From 1983-1985, in Colorado there were weather modification permits in operation to allow cloud seeding to increase the snow pack and assure the ski resorts of adequate snows to maintain the operation of their facilities. Coinciding with the years of cloud seeding, and as previously noted, there were three cumulative years of heavy runoff.

In 1984, the Bureau of Reclamation's Ruedi Reservoir on the Frying Pan River, a tributary of the Roaring Fork and upstream from our section of the river, made peak releases during peak runoffs. Maximum safe channel capacity was reached on the Frying Pan, near the reservoir, and flooding occurred. Ruedi reached maximum storage two months after the flooding.

Following the 1984 floods, my cousins determined steps should be taken to protect their farm land. On August 16, 1984, Dennis and Nile applied for a Section 404 permit to "restore water flow in original channel." Under additional remarks, Dennis wrote: "Diverted water flow currently on our property will threaten more farm land during 1985 run off period." After extensive delay the Corps, without ever actually visiting the site to work out the problem, denied the permit on April 12, 1985. On at least three occasions, before the permit was denied, Dennis specifically requested a site visit by the Corps. The Corps never responded to any of his requests for a site visit. No agency that objected to the permit ever made a site visit. The denial letter from the Corps stated: "Your proposal will have adverse impacts on aquatic life and stream habitat and temporary water quality problems producing long-term impacts to fishery resources." The denial was apparently based on a February 28, 1985 letter from the U.S. Department of the Interior Fish and Wildlife Service to the Corps. That letter stated:

> 1. The Roaring Fork River has been designated as Value Class I, Highest Valued Fishery Resource;
> 2. The Colorado Division of Wildlife has designated the 12 mile stretch of river directly downstream from the project site as 'Gold Medal Trout Stream.' This designation represents the highest quality aquatic habitat in the state, and is considered to provide outstanding angling opportunities for large trout. The proposed project could cause both short and long-term productivity losses to this valuable resource.
> 3. Violation of 404(b)(1) guidelines; and
> 4. The proposed project is poorly conceived, lacks justification and would be temporary at best. It's [sic]

ephemeral nature would require repeated entry into the river for maintenance.

Before Dennis Gerbaz received the Corps' denial letter, he wrote to the Corps' Sacramento office: "I would appreciate action on this as soon as possible as the river flow is rising each day and soon will be impossible to do this work. We must know one way or another so as to plan accordingly. If the situation is left as is there is the serious threat of much private land being flooded." Again, there was no response to Dennis from the Corps.

During the 1985 spring runoff, the Roaring Fork washed rocks and gravel into the main channel, plugging it up, and, as a result, the river moved south on June 17, 1985 onto the Dennis and Nile Gerbaz ranch and again threatened my home. Water flooded my cousin's grain fields and remained there for 15 days. The Nieslanik irrigation head gate was flooded and rendered inaccessible and useless. The head gate has a priority date of 1882.

My cousins sought legal advice following the 1985 flood. They were advised on November 1, 1985 by Delaney & Balcomb, P.C., attorneys at law in Glenwood Springs, Colorado that no Section 404 permit was necessary to restore the Roaring Fork to its original channel and rebuild their section of the levee. My cousins were told they were covered by a nationwide general permit that would allow them to protect their property. They were advised they could proceed with river bank reconstruction, which included cleaning out the main river channel and returning the river to its main channel, where it had been flowing for at least 50 years. My cousins were advised Section 404(f) in the Clean Water Act would be authorization for their work.

In November 1985 work was performed to restore the river to its original channel. We were fearful that the spring snow melt of 1986 would bring an out of control river with extensive local flooding. My cousins joined together with the Ranch at the Roaring Fork, myself, and the Nieslaniks and contracted to have the levee rebuilt adjacent to the Dennis and Nile Gerbaz ranch. The repair alleviated the erosion of the meadowland, lessened future flooding threats to my home and the irrigation works of the Nieslaniks. The river was restored to the main channel that it has followed for over 50 years, as proved by aerial photographs of the area. The continuous discharge of topsoil into the river caused by the washing of the meadowlands was stopped.

The EPA then entered the picture and, based on assertions by the U.S. Fish and Wildlife Service, charged that our actions damaged fish and aquatic life by degrading water quality and causing the river to ribbon or divide into multiple small streams below the levee work. A Notice of Violation and Order was issued against us on May 19, 1988 by the EPA, Region VIII, in Denver. The EPA asked the Justice Department to initiate legal action against us. The assertions by the EPA and the USFW ignored the fact that uncontrolled flooding of the river had dumped thousands of tons of soil and debris into the stream and that the levee work had stopped the sedimentation of the river that was occurring because of the continuing erosion of the Gerbaz ranch meadows. The EPA and the USFW also ignored the fact that aerial photos from the Soil Conservation Service clearly show that ribboning had been characteristic of downstream portions of the Roaring Fork for over 30 years. On March 31, 1989, the Justice Department filed suit against us. We have not yet gone to trial.

Being reasonable people and wishing to avoid the financial ruin of a long lawsuit, we have attempted to settle this matter with the government. We have met on several occasions with government representatives. Meetings were held on July 13, 1988; May 12, 1989; October 2, 1989; January 9, 1990; and even last week. At the July 13, 1988 meeting, we were told by the EPA lead attorney, Bruce Ray, that the Roaring Fork can run anywhere between the mountains two miles to the north of the river and the mountains one mile south of the river and the landowners can do nothing to stop the river, even though there are hundreds of homes and millions of dollars of property in that area. We were told to restore five miles of the river, although the work we did involved approximately one-half mile of river frontage. Mr. Ray was questioned as to what was wrong with our work and he replied that what was wrong was that we had not been given permission to do it. We queried the Corps and the EPA representatives at that meeting as to whether they had any expertise that could be made available to help us with the river. We were told they had no expertise. Our May 12, 1989 meeting was the EPA Region VIII Administrator, James Scherer. The last three days before the meeting, there were six changes in meeting times and agenda. Only two of the three sites where work had been performed were visited. There was supposed to be a public meeting later in the day. Instead, Mr. Scherer made a statement that he understood there was real concern among the landowners about their property but there had been a serious violation and there was no further need for discussion. Following Mr. Scheer's statement, in a brief discussion with the landowners and their attorneys, the government representatives offered a settlement of $160,000 in fines, plus a requirement to restore the river. There was no dollar cap placed on the restoration, which could easily cost hundreds of thousands of dollars. Any river restoration would be a band-aid remedy since the river is an entire system. What happens to just a small stretch of the river will have consequences both upstream and downstream.

Other groups in Colorado have done flood protection work. Near Steamboat Springs, Colorado there were 15 ranchers along the Elk River who dozed 16 miles of river and were issued an after-the-fact permit for $10. Four home owners upstream from us did dozer work in the river at approximately the same time as us. The home owners were required to attend River Council meetings. We do not believe the Corps and the EPA are treating individuals the same under the law. With these agencies' wide discretion, they are arbitrarily and capriciously deciding similar cases on an ad hoc basis. At this time we estimate the fines against us are $40 million and these fines increase every day by $25,000.

In the fall of 1989, some of us responded to the government's request for a restoration plan. A registered hydrologist was consulted and he made an oral presentation at our October 2, 1989 meeting with the government. Later, the hydrologist prepared a written plan which met the government's guidelines. In January, 1990, we learned the government had a new expert who wants a different plan. Last week I met with the new expert who conceives a rebuilt Roaring Fork River. The new section of the Roaring Fork would not resemble any version of the Roaring Fork River that has existed in my lifetime. The new expert wants scrapers, track hoes, dozers, and other equipment to build a new river. We would be required to build a whole new channel, build banks, and strip the present vegetation. The government considered our work deleterious to the river for allegedly causing damage to fish and aquatic life by degrading water quality. I believe rebuilding the Roaring Fork River would also be damaging with repeated entries into the river. The government's expert agrees that anything man-made will require maintenance and the river would have to be maintained in its new condition. The government has told us that whatever plan is required would carry no guarantee of protecting our properties from future flooding nor would we have any immunity from downstream landowners who sued us for changes to their land from government-ordered restoration work.

We as neighbors did not undertake river work to expand ranching land or operations. There was no economic gain in what we did. We merely tried to protect our families, homes, ranch buildings, livestock, and irrigation facilities from destruction. What we did was also affordable for our financial situations, since no governmental entity had undertaken to make the river safer. There has been no evidence that our work damaged the river There has never been any biological impact analysis of our work, specifically, any studies on increased pollution, damaged riparian wetlands, and aquatic habitat. The Division of Wildlife has never provided any evidence of deleterious biological impact that can be attributed to our work. In closing, I would like to observe that Colorado has a "Make My Day Law," which allows you to kill a man for threatening you on your front porch. It is inequitable that when the waters of the United States threaten that same porch and you try to turn them away you face a possibility of a jail sentence and financially losing everything because of the Clean Water Act. Where is justice?

Statement of Edwin G. Harvey

I am a partner in the St. Louis, Missouri law firm of Coburn, Croft & Putzell. Since late 1984, our firm has represented litigants in connection with matters arising under "§404" of the Clean Water Act, 33 U.S.C. §§1251-1376. These cases include: Ricky Lee McGown v. United States, et al.; United States v. James Allen Moseley and Mary Ann Moseley; FERCOM Aquaculture Corporation v. United States, et al.; and United States v. Cochran, et al.. We have observed over the past 12-18 months some very disturbing trends in the §404 program.

It appears that the agencies, in particular the Army Corps of Engineers ("Corps") and the Environmental Protection Agency ("EPA"), have embarked on a new mission -- to expand their §404 role from regulating "water pollution" into regulating "land-use." As a result, cases are now springing up throughout the federal district courts, where outraged landowners are seeking judicial intervention to declare the Corps/EPA's attempted "land grab" policies invalid.

1. Section 404: The Penchant for Overregulation

When Congress considered the 1977 Amendments to §404, it attempted to curb what many members of Congress had perceived as "the Corps' penchant for overregulation, particularly in cases of de minimus environmental concern." 1902 Atlantic Ltd. v. Hudson, 574 F.Supp. 1381, 1397-98 (E.D.Va. 1983). The 1902 Atlantic Court went on to quote the legislative history of the 1977 Clean Water Act Amendments:

> The following colloquy during floor debate on the Senate bill (S.1952) between Senator Muskie, the Senate manager of the 1977 amendments, and Senator Bentsen is illustrative [of Congress' concern for the Corps' penchant for overregulation]:
>
> * * *
>
> MR. BENTSEN: Mr. President . . . . Section 404 has become a symbol to many Americans of how a well-intentioned legislative initiative can turn into a quagmire of disruption, frustration, and bureaucratic entanglement for the ranchers, farmers, foresters, and average citizens of this country.
>
> * * *
>
> Section 404 has assumed an importance that extends far beyond dredge and fill activities; it has become synonymous with Federal overregulation, overcontrol, cumbersome bureaucratic procedures, and a general lack of realism . . . .
>
> * * *
>
> During Senate consideration of the conference report on the Clean Water Act of 1977, Senator Muskie, who also was one of the Senate conferees, stated that the statements made during Senate debate, such as the statements above, adequately reflect the legislative intent with respect to Section 404.

1902 Atlantic Ltd., 574 F.Supp. at 1398, n. 16 (emphasis added) quoting Legislative History of the Clean Water Act of 1977, a Continuation of the Legislative History of the Federal Water Pollution Control Act, Vol. 3-4, pp. 470, 901-02 (1978).

It is this "penchant for overregulation" (by both the Corps and the EPA) that now victimizes our citizens -- including clients which my firm represents and some of whom will be testifying before this sub-committee. In effect, the Corps/EPA are attempting to use the Clean Water Act to expand their "regulatory turf" out of the water, out of the swamps and marshes, and straight onto the dry land -- all so they can regulate bottomland timber. Recently, in *United States v. Larkins*, 852 F.2d 189 (6th Cir. 1988), *cert. denied*, 109 S.Ct. 1131 (1989), although *dicta* because the landowner expressly declined to raise the issue, the Sixth Circuit *sua sponte* went out of its way to criticize the Corps' over-expansive jurisdictional approach:

> [T]he Corps has now expanded the definition of "navigable waters" to include any creek or stream or moist area . . . . "Under such a construction [as proposed by the Corps of Engineers] low lying backyards miles from a navigable waterway would become wetlands." [citation omitted]. The Corps' definition has apparently detached and untied the "wetlands" jurisdiction of the Corps from any concept of "open waters" or navigable waters. *A farmer's low lying farmland or a homeowner's low lying backyard -- adjacent to a small stream or creek but many miles from any navigable waterway -- has apparently been converted into government property no longer subject to control or improvement by the owner without government permission.* A statute that does not mention "wetlands" has apparently been read to include simply "moist land adjacent to a creek."
>
> The framers of the Constitution were solicitious of the rights of landowners -- especially small farmers struggling for survival -- not to have land appropriated by the government. They therefore adopted the provision of the Fifth Amendment of the Constitution prohibiting the taking of private property for public use without just compensation.

United States v. Larkins, 852 F.2d at 193 (Merritt, J., concurring) (emphasis added). (Unlike the cases in which we are involved, *Larkins* involved land covered in part with "knee deep water" and cypress trees, *see* 659 F.Supp. 76, 79, containing numerous sloughs and depressions which defendants filled, 852 F.2d at 190, and which previously "tended to be covered by standing water." *Id*. at 191.) Although it has been held that a "taking" claim is no defense to a §404 enforcement action, *see* *United States v. Riverside Bayview Homes, Inc.*, 474 U.S. 121, 127-28 (1985), as indicated by Judge Merritt in *Larkins*, it is fundamentally wrong for the government to try to seize control of its citizens' property under the pretext of enforcing an "anti-water pollution" statute. *See* Exec. Order 12630, March 15, 1988, 53 Fed. Reg. 8859, "*Governmental Actions and Interference with Constitutionally Protected Property Rights*" (directing each agency to account for Fifth Amendment "taking" concerns in carrying out actions, including regulatory and permitting functions).

Unfortunately, despite the concerns expressed in 1977 by Senators Bentsen and Muskie, things have become worse -- not better.

2. *The New Approach: Regulating Dry Land*

The new trend (i.e., regulating under §404 as if it were a "land preservation statute" instead of an "anti-water pollution statute"), is a direct contradiction to the Corps/EPA's regulations. The agency regulations define wetlands and then state that "[w]etlands generally include swamps, bogs, marshes, and similar areas." It was the intent of the Corps to include *only* truly aquatic areas. This is made clear by Regulatory Guidance Letter 86-9, issued August 27, 1986, by Brig. Gen. Offringa:

> We do not intend to assert jurisdiction over those areas that once were wetlands and part of an aquatic system, but which, in the past, have been transformed into dry land for various purposes. Neither do we intend the definition of "wetlands" to be interpreted as extending to abnormal situations including non-aquatic areas that have aquatic vegetation. Thus, we have listed *swamps, bogs and marshes*

> at the end of the definition at 323.2(e) to further clarify our intent *to include only truly aquatic areas* . . . . Thus, if a former wetlands has been converted to another use (other than by recent unpermitted action not subject to 404(f) or 404(r) exemptions) and that use alters its wetland characteristics to such an extent that it is no longer a "water of the United States," that area *will no longer come under Corps regulatory jurisdiction for purposes of Section 404*.

(RGL 86-9) (emphasis added).

Despite the foregoing, in connection with the agencies' fervent pursuit of a "no net loss" policy, the government recently published a "wetlands manual" entitled: "Protecting America's Wetlands: An Action Agenda; The Final Report of the National Wetlands Policy Forum." Significantly, the contrast between the "wetlands illustrations" contained in this manual, and the so-called "wetlands" in *Moseley*, *McGown*, and *FERCOM* is striking. In fact, out of the manual's twenty-six photographs, only one photograph shows something other than a submerged and/or truly wet environment, (or aquatic wildlife). This photograph, on page 37, contains the oxymoronic heading: "*Dry Wetlands*." (It is probably no coincidence that this photograph appears on the same page which includes a discussion of the "inevitable discrepancies" between regulatory and inventory definitions which "create confusion, delay, and frustration for landowners seeking to determine whether they own any wetlands subject to regulation.")

Shortly after publishing the National Wetlands Policy Forum, on January 10, 1989, the Corps, EPA, FWS, and Soil Conservation Service "jointly" published a document entitled "*Federal Manual for Identifying and Delineating Jurisdictional*

Wetlands, ("the Federal Manual"). The Federal Manual sets forth "mandatory" technical criteria and methods for identifying and delineating jurisdictional wetlands of the United States. (See Federal Manual, Preface, p. i; p. 1, §1.0 and Part II, Mandatory Technical Criteria for Wetland Identification, p. 5-7). This manual states that it "draws heavily" upon published manuals and methods, including the Corps' "Wetlands Delineation Manual" and the EPA's Wetland Identification and Delineation Manual. (Federal Manual, p. i).

In promulgating the Federal Manual, however, the government agencies have failed to follow the notice and comment requirements set forth in the rule making provisions of the Administrative Procedure Act ("APA"). Apparently attempting to avoid public scrutiny, this manual was promulgated and published in violation of the "Notice and Comment" requirements established under the rule making provisions of the Administrative Procedure Act. 5 U.S.C. §553. Before a rule is promulgated or amended, Section 553 of the APA requires agencies to afford notice of such pending action and to provide an opportunity for public comment. 5 U.S.C. §553. The APA's notice and comment provisions seek to insure public participation, fairness, and mature consideration of rules of general application. N.L.R.B. v. Wyman Gordon Co., 394 U.S. 759, 764 (1969). The notice and comment provisions allow the affected parties to provide input to the federal agency of all relevant facts and alternatives. Chocolate Mfrs. Ass'n of U.S.

v. Block, 755 F.2d 1098 (4th Cir. 1985); Nat'l Soft Drink Ass'n v. Block, 721 F.2d 1348 (D.C. Cir. 1983); Brown Ex., Inc. v. U.S., 607 F.2d 699 (5th Cir. 1979); Texaco, Inc. v. Federal Power Comm'n, 412 F.2d 740 (3d Cir. 1969).

It is noteworthy that in one recent case, Tabb Lakes, Ltd. v. United States, 715 F.Supp. 726 (E.D.Va. 1988), aff'd without published opinion, No. 89-2905 Slip. Op. at 1 (4th Cir. September 19, 1989), the District Court and the Fourth Circuit made clear that documents published by a federal agency which purport to establish methods for delineating "wetlands" are substantive decisions which require notice and comment. 715 F.Supp. at 728. Illustrating how broadly it perceives its jurisdiction to be, the Corps attempted to assert jurisdiction over an area because in its opinion, the area was a "wetland" and part of "waters which are used or could be used as habitat by other migratory birds which cross state lines." Id. at 737 (emphasis added).

Through its new federal manual, the agencies have attempted to formalize a procedure which allows them, under a guise of a "three-parameter" test, to declare that land which is normally dry, but occasionally wet (even via rainfall) is a "wetland."

For example, in the Moseley case, between September 15 and September 29, 1988, the property received four and one half inches of rainfall -- yet when the Corps performed its "wetland delineation" inspection only a few days later, not even one of the soil samples taken on the property found saturated soils to exist. The agencies' two "wetland delineation" inspections of the property in the McGown case also found no saturated soils. Yet in both cases, the agencies boldly proclaim the farmland to be part of the "swamps, marshes, bogs, and similar areas" they now call "wetlands."

In the FERCOM matter, it is difficult to predict what the agencies will claim they found when their "inspection team" -- including three of the individuals credited with drafting the 1989 Federal Manual -- surrounded the various holes they dug on FERCOM's property last Thursday, February 22, 1990. The difficulty is presented because (1) at the time of the "inspection," the property was being subjected to almost continuous rainfall (reportedly the county's largest rainfall over the past two years), and (2) every piece of property from the tops of the hills down to the lowest valleys was already soggy and wet due to the snow and ice which had just melted only a day or two before. If experience is any guide, however, it is probably safe to assume that the Corps/EPA will contend that the findings they made during the deluge led them to believe through their "professional judgment" that the soil was saturated, and when combined with ambiguous vegetation which is found abundantly on hillsides, they will claim the area is a "wetland."

Even if the intent of the 1989 Federal Manual was not to expand §404 jurisdiction onto normally dry land, it was certainly the effect of the document. The so-called "three parameter" test provides that the "mandatory" technical criteria of wetlands are: "(1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology . . . ." Federal Manual, p. 5, §2.0. It is beyond the scope of this Statement to provide a detailed assessment of the flaws and inadequacies of this approach. It is worth pointing out, however, that the term "hydric" generally pertains to "soils and layers well below the root zone, and to the wetness condition when those layers were laid down in long-past geological history. Use of the term "hydric soils" does not really assist in a determination of whether the root zone soil meets the requirements of the regulation." Leslie Salt Company v. United States, 700 F.Supp. 476, 487 (N.D.Cal. 1989), rev'd on other grounds (9th Cir. 1990). "After a rain that is heavy or long enough, any soil will become temporarily saturated. But that is not enough for a determination of wetlands under the regulations." Id.

The "hydrophytic vegetation" criteria, when examined closely, borders on ridiculous. In Missouri, the Corps/EPA has designated numerous trees and plants (commonly found on the hillsides) to be "aquatic vegetation." A far cry from lily pads or cattails, these "aquatic plants" include such noteworthy "swamp trees" as Pin Oaks, Silver Maples, Red Maples, Honey Locusts, Ohio buckeyes, Sweet Gums, and the American Elm -- trees found throughout yards and parks everywhere.

Furthermore, the Federal Manual is written so that the Corps can essentially ignore the third criteria -- "wetland hydrology" -- which, of course, is convenient if you are an agency trying to regulate dry land. The Federal Manual, p. 7, §2.10 states: "Areas that meet the NTCHS hydric soil criteria and under normal circumstances support hydrophytic vegetation are wetlands." Thus, since many, if not most, bottomland areas contain hydric soils (although likely as a result of inundation conditions from centuries or millenniums past), and since the "hydrophytic vegetation list" is so broad as to include plants that are distributed equally between hillside uplands and bottomlands, the agencies have abundant opportunity to claim jurisdiction over almost any floodplain area. It is by these devices that the Corps/EPA (and likely the Fish and Wildlife Service as well) have somewhat surreptitiously moved towards transforming an Act which prohibits the "discharge of any pollutant" into navigable waters into a program whereby the federal government dictates land use policy.

Additionally, by virtue of alleged activities not remotely related to "water pollution," my clients have been accused of being "violators" and "multiple and flagrant violators" of the Clean Water Act. The supposedly unlawful activity (brush clearing), however, did not consist of "water pollution" by any stretch of conventional wisdom. Rather, farmers (such as Mr. Moseley and Mr. McGown) routinely clear brush from their property.

Moreover, when parties have attempted to deal with the Corps/EPA, they have encountered a virtual stonewall of resistence. All too often, rather than using mitigation as a reasonable tool to preserve the environment, the agencies use it as a device for quasi- extortion. With all the resources in their control, it is easy to understand how most landowners simply "knuckle under" to the agencies' demands.

For example, Mr. McGown tried to work with the Corps for a year and a half, before he finally gave up and sued for declaratory and injunctive relief. He had little choice -- the agencies were demanding that he essentially turn over to them one fourth of his 250 acre farm "in exchange" for a §404 "permit." (The footprint of his levee however, would "take" only 6.7 acres.) Mr. Moseley's situation was similarly frustrating. The agencies rejected Mr. Moseley's offer to "set aside" 22-23 acres of timber/brush, and insisted instead that he change his levee alignment to "set-aside" 18 acres of timber/brush on another portion of the property, and "leave two remnant oxbows as a set-aside area."

In Missouri and Arkansas, a 43 million dollar federal project (the Little Black River Project) has been stalled for years -- in part as a result of the EPA's bickering over "mitigation" for 280 acres of "wetlands."

CONCLUSION

The aquatic resources of the United States should doubtlessly be protected. If, however, Congress (as opposed to the agencies) truly desires to engage in dry land use preservation programs, it should do so expressly and remove the uncertainties, ambiguities, and confusion from the §404 regulatory program, and, at the same time compensate landowners whose land is taken in the process. If Congress desires to implement a "no net loss" policy for the nation's wetlands, it would seem that §404 is a poorly designed vehicle for achieving this goal.

TESTIMONY OF BP EXPLORATION (ALASKA), INC.
ON WETLAND ISSUES

BEFORE THE PUBLIC WORKS AND TRANSPORTATION
SUBCOMMITTEE ON WATER RESOURCES

FEBRUARY 28, 1990

INTRODUCTION

My name is Roger Herrera. I am a resident of Anchorage, Alaska, and work for BP Exploration (Alaska).

BP Exploration (Alaska), Inc. (BP) is pleased to have this opportunity to comment on the issue of the administration of our nation's wetlands. Establishing the goal of "no net loss" of wetlands in Alaska, and requiring compensatory mitigation for all activities that result in wetland losses, will have a direct effect on Alaska's economic development and on the U.S. energy picture; but it will not solve the problems for which it was intended. Alaska wetlands do not represent a problem and do not represent a solution to the nation's Lower 48 wetlands problem.

We must not forget that the current focus on the protection of wetlands stems from the fact that more than half of the wetlands in the contiguous 48 states have been lost and that those losses have reached a level that seriously impedes the traditional wetland functions on which most of the environmental and economic health of the nation is dependent - flood control, groundwater recharge, sediment filtration, wildlife habitat and recreational opportunities.

With 170 million acres of wetlands, Alaska has almost doubled the area of wetlands found in all the contiguous 48 states. Approximately three quarters of Alaska's non-mountainous area is wetlands, including almost the entire North Slope. Statewide only five one-hundredths (0.05) of one percent of the wetlands have been altered. On the North Slope where 25% of the nation's energy production occurs, only 20,000 acres, or 0.05% of the 37 million acres of arctic wetlands have been affected (and most of that is associated with the Trans-Alaska Pipeline). The majority of wetlands in Alaska are limited in functional value compared to wetlands in the Lower 48. Alaska wetlands serve primarily as wildlife habitat, and wildlife populations in Alaska are generally not limited by available wetlands area. It is ironic, therefore, that the no net loss goal, which was designed to address very real problems in the Lower 48, will have a disproportionately greater effect on Alaska, the one state with an abundance of wetlands, the one state that clearly does not have a wetlands problem.

In this same respect, neither will the goal of no net loss implemented through the 404 Program solve the Lower 48 wetlands problem. Approximately 87% of the Lower 48 wetland losses are attributable to activities that are exempt from 404 regulatory authority. These, combined with the newly expanded definition of wetlands, are the main barriers to achieving overall national wetlands protection.

IMPACT OF MOA ON ALASKA

The most significant change imposed on the 404 permitting process by the recent MOA between EPA and Army is the requirement for compensatory mitigation as a means of obtaining the goal of no net loss. EPA and the U.S. Fish and Wildlife Service (FWS) have attempted to require compensatory mitigation (in the form of off-site mitigation) for North Slope projects for many years now. The MOA has not changed what commenting agencies will seek from the Corps and the applicant in the way of mitigation, however, it does change significantly the Corps' discretionary authority, making it more difficult for the Corps to make a determination counter to the requests of the agencies.

In the past, the Corps has not incorporated the off-site mitigation requested by EPA and FWS into 404 permits for North Slope operations. The 404(b)(1) Guidelines followed by the Corps do not require full compensation, rather they emphasize avoidance and minimization. Under the Guidelines, compensation is merely one option the Corps can consider if significant resource losses are specifically identifiable and reasonably likely to occur. Neither do the Corps regulations or the guidelines specify habitat as the exclusive or preferred basis for assessment of compensatory requirements. The MOA establishes habitat as the basis for assessing compensation, and makes habitat creation and restoration the exclusive mitigation measure the Corps will consider. These changes are major and will significantly alter the 404 permitting process. Looking at just one aspect of the Endicott Development Project, a 404 permitted oilfield that came on stream in 1987 and is currently the 5th largest oilfield in the U.S., provides a good example of what this one change required by the MOA would have meant.

ENDICOTT EXAMPLE

As compensation for the access road across the Sagavanirktok River Delta to the Endicott oilfield, FWS sought mitigation in the form of off-site preservation purchases. They requested 40,000 acres, an area equal to the amount of insect relief habitat they alleged would be functionally lost to caribou because of potential behavioral avoidance of the road through the Delta. Based on a FWS functional habitat assessment, the requested mitigation for 40,000 acres exceeded the direct loss of habitat on a 100 to 1 basis! Additionally, FWS would only accept acreage that was of known development potential for mitigation purposes, asking BP for a commitment not to develop an area of known hydrocarbon value.

BP opposed the request for many biological and technical reasons including the following: (1) the compensation would not be biologically meaningful since there was no evidence that blockage of caribou was reasonably likely to occur, and no evidence that habitat availability was a limiting factor on the caribou population (as evidenced by the substantial increase in the caribou population with the development of Prudhoe Bay oilfield); (2) the mitigation request (40,000 acres of "functional habitat") was not directly related to the placement of fill in wetlands (350 acres covered by gravel fill); (3) if the 40,000 acres of off-site mitigation has been required, it would have meant compensating for the project twice, since both the Corps and the State of Alaska required that the gravel be removed or rehabilitated to their satisfaction upon abandonment of the development; (4) the mitigation required by FWS was not within the Corps' regulations. The Corps' regulations and Guidelines speak to mitigation in the context of adverse effects on the ecosystem and wildlife populations and do not mandate a mitigation assessment or requirement based exclusively on habitat effects; (5) the 40,000 acres requested by FWS was in State and Native ownership which did not give BP the ability to set it aside; and since it had to be an area of known development potential, setting it aside would have been counter to State and national interests; and, (6) the request for compensatory mitigation was solely punitive in light of the extensive mitigation measures incorporated into the project for the protection of caribou alone.

Caribou mitigation measures include the mapping of historical caribou routes so that the road could be sited parallel to the major routes of caribou travel; winter construction of the road and pipeline to avoid the period when caribou were present; keeping the pipeline elevation at five foot minimums (accepted as adequate for caribou passage; separating the road and pipeline (accepted measure to enhance caribou passage); manned security checkpoints during the caribou season to control vehicle access to the road; construction of three caribou crossing ramps over the pipeline (increasing the gravel placement for which compensatory mitigation was sought, and at a cost of $250,000 each); implementation of a traffic control plan and enforcement of speed limits during the caribou season;

implementation of a multi-year research program to determine the effectiveness of the caribou crossing ramps; and incorporation of caribou information into a mandatory employee environmental training program. Obviously industry is not opposed to mitigation measures for caribou that provide meaningful results in contrast to setting aside 40,000 acres that would do nothing to mitigate any potential project related disturbances; or to mitigate wetland loss in the Lower 48.

EXAMPLE OF PRUDHOE BAY DRILLING

P-PAD - HURL STATE

The same holds true for birds, which are often the issue when wetlands are altered. Mitigation measures that avoid and minimize disturbance are meaningful in a way that compensation is not. An example of this, as well as another illustration of how EPA and FWS will interpret and try to implement the MOA in Alaska is the Hurl State development project (P-pad) recently permitted by BP within the Prudhoe Bay oilfield. P-pad was the smallest production pad ever proposed (and built) for the number of wells it will support. It is also the first production well pad designed without a reserve pit. Utilizing directional drilling, newly designed drill rigs and a prototype grinder for muds and cuttings that would allow them to be reinjected, the footprint for P-pad is less than half the size of traditional well pads. In addition to minimizing the P-pad footprint other planning efforts involved site geobotanical, hydrological and bird surveys. The products of these efforts along with environmental thematic maps, topographic maps, bird use maps based on habitat type and aerial photographs were provided to the federal agencies to assist in the cooperative planning effort. Objectives of the planning effort were to site the road and pad to avoid areas agency biologists considered higher value wetlands, to minimize local hydrologic changes, to avoid pad drainage toward the Kuparuk River, and to avoid, in particular, high density bird nesting areas. EPA and FWS participated in several pre-application meetings that resulted in numerous project modifications prior to submittal of the formal application to the Corps.

In their comments to the Corps on the P-pad permit application, FWS acknowledged BP's efforts to minimize project impacts, and commended BP's proposal to build and operate a well pad without a reserve pit. However, the FWS maintained that the project would result in "unavoidable losses of high value migratory bird habitat" and that it was their "mitigation goal was to ensure no net loss of in-kind habitat value." To compensate for impacts to wildlife and wildlife habitat value, FWS requested that the Corps incorporate a requirement for off-site rehabilitation of an abandoned exploratory well pad as a mitigation condition on the P-pad permit. EPA reiterated this same request in their comments to the Corps. After considerable delay and much negotiation, EPA and FWS dropped their requests that the off-site mitigation be a formal stipulation on the Corps' 404 permit for Hurl State. BP had undertaken a comprehensive research project to evaluate techniques for the rehabilitation on gravel pads and roads, and agreed to make the abandoned exploratory well pad of interest to FWS and EPA a study site.

During the extended negotiations, however, BP opposed the EPA and FWS requests for compensatory mitigation on the grounds that its willingness to develop new technology and to be innovative in its approach to project planning and pad design had reduced the typical habitat impact of a production pad by more than 50% and was the most effective mitigation possible. Additionally, BP argued that habitat compensation is not biologically meaningful for the North Slope of Alaska which is entirely wetlands, and where habitat is not a population limiting factor, so requests such as those made by EPA and FWS have to be considered punitive versus constructive mitigation. It was also BP's position that compensatory mitigation to fully offset habitat loss when no effect on wildlife or on the ecosystem could be demonstrated, was not mandated by the Corps' regulations nor by the 404(b)(1) Guidelines.

By not binding the Corps to a strict sequencing approach in terms of mitigation, the Corps' regulations allowed for overall project review and consideration of BP's efforts to avoid and minimize environmental effects. The 404(b)(1) Guidelines describe actions to minimize, not offset, adverse effects to the ecosystem and wildlife populations (only one of which describes habitat development and restoration). With the MOA in place, the Corps would have been under intense pressure to incorporate as permit stipulations, the off-site mitigation requirements requested by EPA and FWS. If the Corps had stipulated off-site mitigation, it is not certain whether BP would have accepted the permit or withdrawn its permit application.

As a footnote to the P-pad permitting example, it is worth mentioning the study BP initiated to look more closely at the effect of habitat change on area birds. BP conducted intensive bird surveys in 1988 prior to the construction of P-pad and again in 1989 following construction. In 1988 researchers captured and marked the site-tenacious species and a number of the other more common species of nesting adults so that they could be recognized if they were found on or adjacent to the study area in 1989. The 1989 survey found that most nesting birds disturbed by a combination of changes had moved only short distances to new nest sites within, or immediately adjacent to, the study area. The important point is that the birds did not abandon the area which demonstrates the ability of undisturbed tundra to support a higher density of nesting birds that it contained prior to construction.

CONCLUSIONS

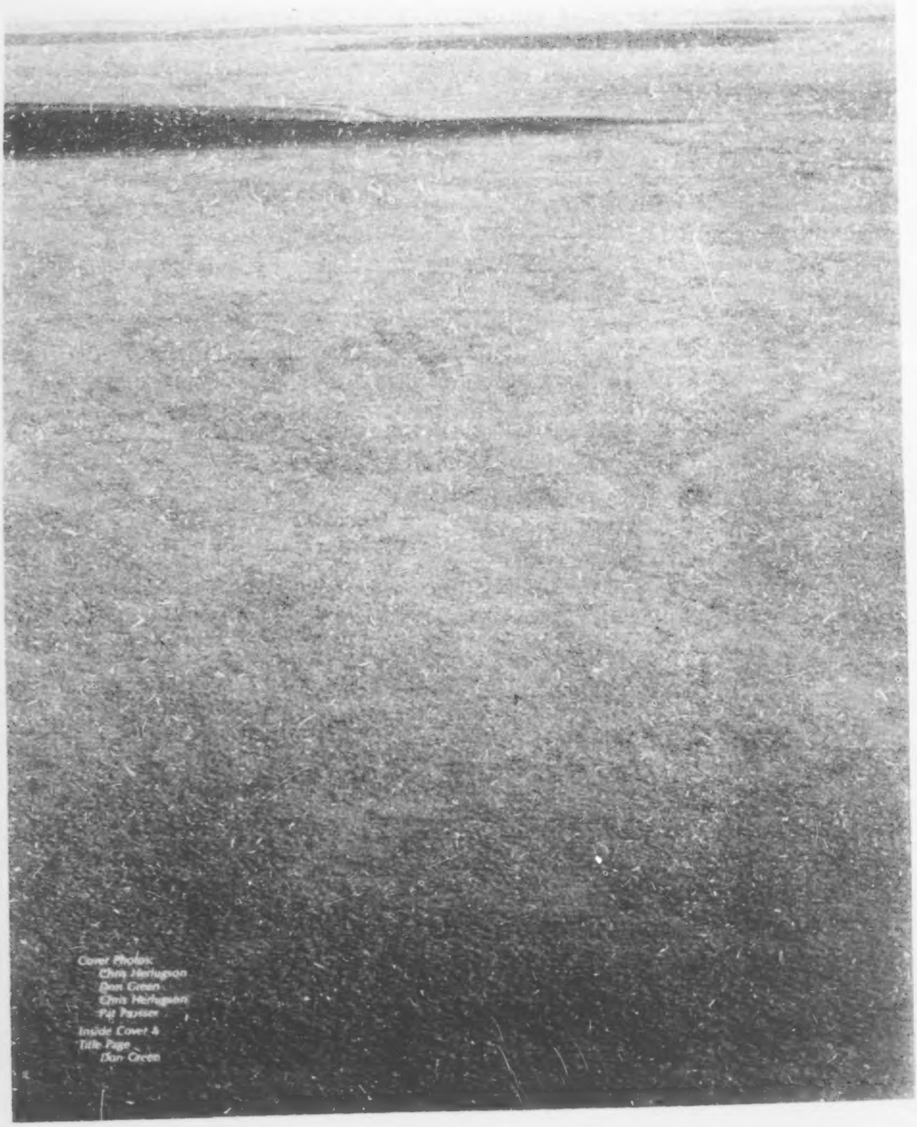
These real life examples illustrate the problems associated with national regulations to protect wetlands which have insufficient flexibility to deal with special circumstances such as permafrost wetlands. Is it more important to produce arctic oil in a responsible manner, or to present such development but with no commensurate benefit to wetlands or wetland functions? A decision to protect all 404 wetlands or all wetland values at the cost of reasonable economic development doesn't make much sense, yet it is the course which is encouraged by the MOA.

We applaud wetlands protection and embrace, as necessary, methods to protect and rehabilitate high value wetlands. However, unless all wetland areas are included in the endeavor, not just 404 regulated ones, the effort becomes impractical, unfair and doomed to failure. If Congress wants to improve our inventory of useful wetlands - which is a worthy goal - it must look at the total picture, not just 15% of it. Areas requiring wetland protection must be prioritized, and the implementation of protection measures must be weighed against economics and other societal needs. In other words, practicality must be balanced with the theoretical goal.

In this regard, the broadened definition of wetlands recently agreed to by the regulatory agencies introduces a barrier to pragmatic solutions which will undoubtedly, over time, be more detrimental to wetland protection than was envisaged by its progenitors. If everything is labeled as wetlands, it obviously becomes impossible to protect everything. Consequently, laws to do so are excessive and will be counterproductive. The protection of wetlands is easy to embrace, but it will only be achieved by common sense and balance, not by dictatorial edict. This Committee's efforts to establish that balanced protection are to be applauded.

Alaska Wetlands & Energy Development

BP Exploration (Alaska) Inc.



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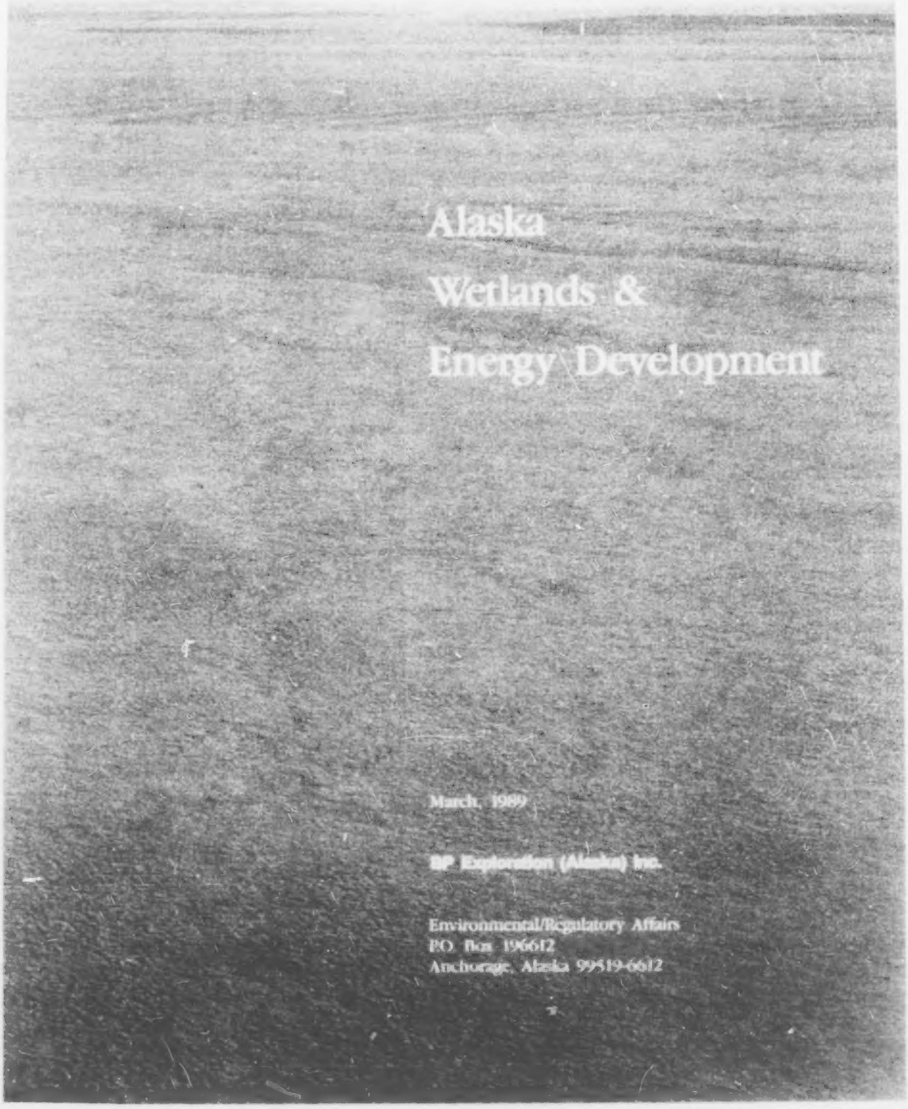

Alaska Wetlands & Energy Development

March, 1989

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Preface

Alaska contains about 170 million acres of wetlands—almost double the total acreage of wetlands present in the contiguous United States. On Alaska's North Slope, which contributes one quarter of the Nation's domestic oil production, 99 percent of the land area consists of arctic tundra varieties that are considered wetlands for regulatory purposes. Therefore, virtually all energy exploration and production on Alaska's Arctic Coastal Plain require using land which is legally regulated as wetland.

Alaska's Permafrost Wetlands Are Different

Wetlands throughout most of Alaska's vast arctic and subarctic regions—including the entire North Slope—are fundamentally different from the freshwater marshes and tidelands with which most Americans are familiar. The wetlands of northern Alaska are underlain by *permafrost*—permanently frozen ground that makes it impossible for these lands to provide most of the functions for which wetlands in the contiguous United States and Hawaii are valued.

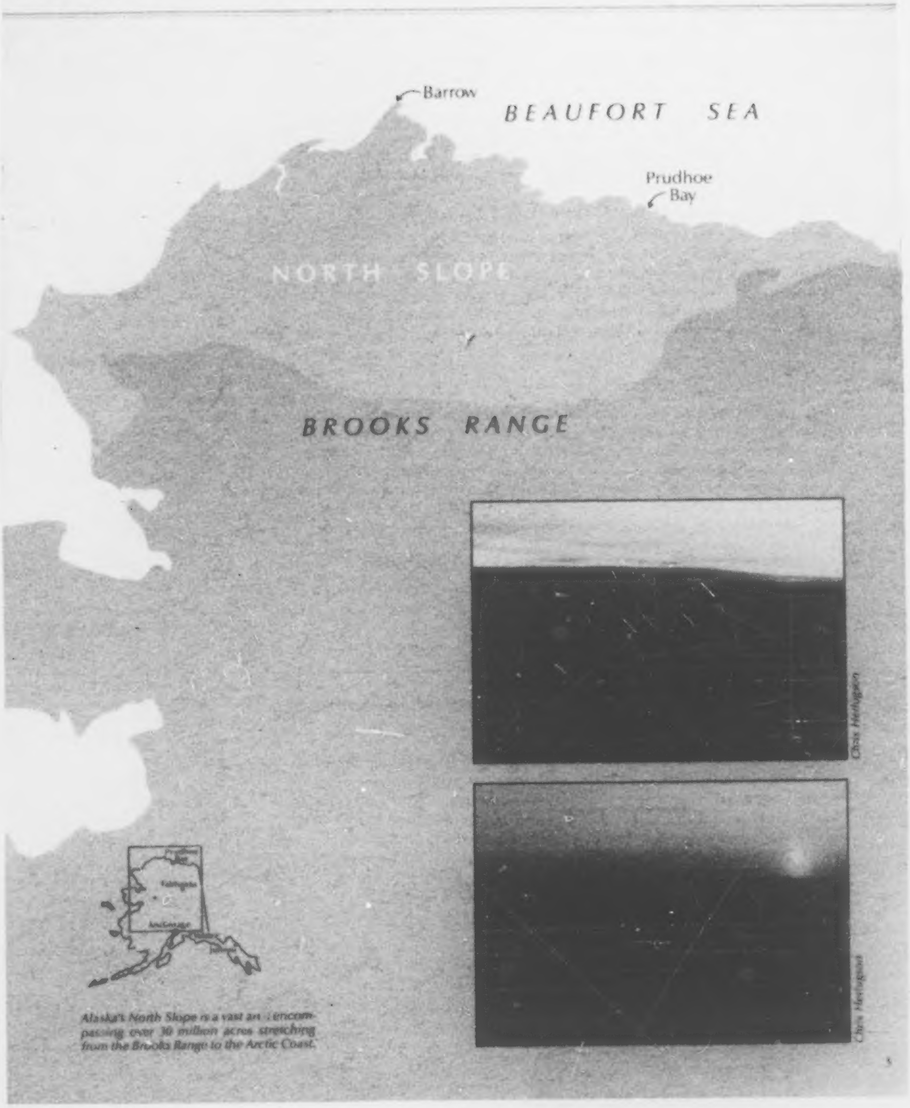
Alaska's Wetlands Are Almost Entirely Undisturbed

Although Alaska supplies 25 percent of the Nation's oil production, 99.95 percent of the state's entire wetland base is undisturbed and in its original condition. Only two one-hundredths of one percent (0.02%) of Alaska's wetlands have been used for oil and gas development. Even on the North Slope, where the largest oilfields are located, less than one tenth of one percent (0.1%) of the area's wetlands have been developed for petroleum exploration, production, and transport to markets.

New Policies Should Recognize Alaska's Differences

In sharp contrast to Alaska, large wetland declines are still occurring rapidly in the contiguous United States. As new policies are devised to halt and eventually reverse these declines, it is important to recognize that arctic wetlands differ from those in the rest of the Nation, and that Alaska's substantial contribution to the Nation's energy supply affects only a fraction of one percent of the state's wetlands. *Even if that tiny fraction were totally restored, it would have no statistically detectable effect on balancing the Nation's wetland losses.*

Applied to Alaska's vast wetlands—which are larger in area than the states of California and Oregon combined—a nationwide policy of "no net loss" to wetlands would substantially limit further energy exploration and development. And such a policy in Alaska would accomplish nothing to slow wetland losses in the contiguous United States. Clearly, Alaska should not be included in that policy.


Barrow
BEAUFORT SEA
Prudhoe Bay
NORTH SLOPE
BROOKS RANGE
Fairbanks
Anchorage

Chris Herlugson

Chris Herlugson

Alaska's North Slope is a vast area encompassing over 30 million acres stretching from the Brooks Range to the Arctic Coast.

What Are Wetlands?

Wetlands are easy to recognize, but hard to define precisely. This is because wetlands are very different from place to place and reflect a wide variety of conditions relating to climate, landscape, soils, and drainage patterns.

Basically, a wetland is a place where still or slowly moving water is present on the surface of the land for at least part of the year. The standing water saturates soils and encourages the growth of plants that can tolerate flooded conditions.

Wetland Definitions Are Based on Water, Soils, and Plants

Official wetland definitions used by government agencies all share the three elements of water, soils, and vegetation. Although agencies may follow somewhat different guidelines for implementing regulations which protect wetlands, they basically follow the definition contained in the Clean Water Act, a federal law that helps to protect wetlands. This act defines wetlands as:

> *those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.*

Wetlands Are Diverse and Vary Greatly with Geographic Region

The United States ranges from the subtropics to the Arctic, and wetlands reflect this geographic diversity. A cypress swamp in the South is strikingly different from Alaskan tundra. Both may have standing water and saturated soils during at least part of the year, and plants which reflect these conditions. Both support a wide variety of wildlife. But these similarities are quite superficial: the two wetland regions are far more different than they are alike.

Fundamental differences exist between wetlands in the various geographic regions of the United States. These differences lie in basic processes relating to hydrology, water quality, and wildlife habitat functions. Regional differences have an important bearing on the success of wetland regulatory policy when it is applied uniformly to all 50 states. Wetland regulations based on familiar temperate-zone conditions may produce inappropriate results when applied to radically different environments such as Alaska's Arctic Coastal Plain.

Arctic wetlands (top) offer a distinct contrast to wetlands in the contiguous 48 states (bottom).

Why Are Wetlands Important?

Wetlands Provide Wildlife Habitats

A *habitat* is the combination of physical conditions that make it possible for one particular species of wildlife to live in its geographic range. Many species of fish and wildlife could not exist without wetlands, because of the essential habitats which they provide. In many cases, these habitats support fish and wildlife populations of great economic value for commercial and recreational purposes.

Wetlands Provide Hydrologic Values

Tropical and temperate-zone wetlands perform hydrologic functions that help protect human safety and preserve the economic value of land and property. These functions include aquifer discharge and recharge, erosion control, containment of flood water, shoreline protection, and other processes relating to the movement and storage of water, especially during major storms and heavy rainfall.

Don Gavett

Wetlands Protect Water Quality

Wetlands are important in maintaining the purity and clarity of surface waters. Acting as natural water filters and purifiers, wetlands remove or chemically neutralize contaminants and excess nutrients. They also reduce sediment loads by serving as settling ponds for runoff waters. Aquatic vegetation filters and collects sediments that would otherwise enter lakes, streams, and reservoirs.

Wetlands Support Outdoor Recreation

Wetlands provide major opportunities for outdoor recreation such as fishing, hunting, boating, and water sports. They also provide scenic values and environments suitable for birding and wildlife viewing. These attributes make a substantial contribution to travel and tourism. In the United States, wetland-related outdoor recreation and leisure-time activities are estimated to generate billions of dollars each year.

How Is Alaska's North Slope Tundra Different From Wetlands in the Rest of the Nation?

Permafrost Lies Below Arctic Tundra

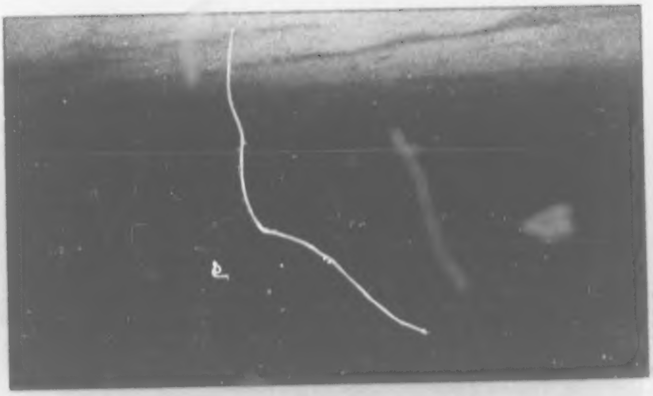
On Alaska's Arctic Coastal Plain, annual precipitation varies from about 5 to 7 inches, a level typical of the world's desert regions. Why, then, is the North Slope—an arctic desert—considered to be 99 percent wetland?

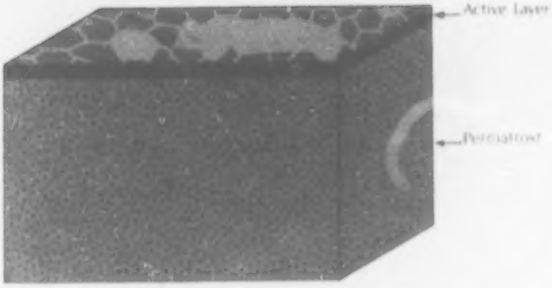
The answer is *permafrost*: a condition in which soil temperature is maintained permanently at or below the freezing point of water, whether or not ice is present in the soil. Because liquid water cannot pass through permafrost, spring snowmelt and summer rain are trapped on the flat surface of the coastal plain during the brief arctic summer, leading to conditions that superficially resemble wetlands in the contiguous United States.

In contrast to wetlands in temperate-zone and tropical parts of the world, arctic wetlands are not connected to aquifers. Permafrost extends to depths of 2,000 feet or more. During the short summer, which lasts from about mid-June through mid-August, a shallow *active layer* of surface soil thaws to a depth of 1 to 3 feet. Liquid water does not exist in the permafrost beneath the active layer.

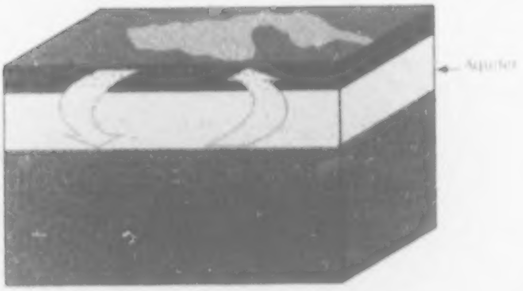
Therefore, the permafrost wetlands of arctic Alaska are fundamentally different from wetlands in the contiguous United States and Hawaii, where water travels continuously in a cycle of aquifer discharge and recharge between the surface and groundwater reserves. Without permafrost to trap rain and meltwater at the surface, most of Alaska's North Slope would probably not be wetland.

The cold, dark reality of the long arctic winter dominates the North Slope landscape for most of the year.





In spite of sparse precipitation which would classify Alaska's Arctic as a desert, the presence of permafrost prevents the downward movement of water and makes wetlands quite different in character from wetlands in temperate zones.



In temperate zone wetlands, there is free exchange of surface and subsurface water.

How Are Alaska's North Slope Wetlands Different?

Alaska's arctic wetlands are fundamentally different from the marshes, swamps, and bogs familiar to most of the Nation. Because they are underlain by permafrost and covered by snow 80 percent or more of the year, Alaska's North Slope wetlands do not provide most of the values associated with wetlands in the contiguous United States. Important functions relating to hydrology, water quality, and water recreation are largely absent on the North Slope. Fish and wildlife habitats also function very differently in the Arctic.

Permafrost Wetlands Lack Most Hydrologic Functions Important in the Contiguous USA

Unlike wetlands in the Nation's temperate zone, arctic permafrost wetlands are not effective in controlling erosion. If their thin cover of vegetation is removed during the summer, exposed permafrost soils begin to thaw and slump through a process called *thermal erosion*. It is for this reason that oilfield facilities are built on gravel pads which insulate the underlying tundra.

The active layer in permafrost wetlands has little capacity to store flood waters or to control extremes in surface runoff flows. In the spring, when melting snow causes the greatest surface runoff, the active layer is still frozen and cannot absorb or retain water.

Water Purification Functions Are Also Limited in Arctic Wetlands

In arctic Alaska, water is frozen throughout most of the year. During the brief summer, tundra vegetation provides only a limited role in maintaining surface water quality. Unlike temperate-zone wetlands, in which aquatic vegetation filters sediments and contaminants from flowing water, water does not generally flow into arctic wetlands from an upstream source. Standing water originates primarily from melted snow trapped at the surface by permafrost. Therefore, arctic tundra wetlands generally do not cleanse water by filtering sediments and contaminants from a steady incoming stream.

In temperate-zone wetlands, bottom sediments and their rich microbial life act as a chemical laboratory which breaks down contaminants and excess nutrients, thereby helping to maintain water quality. In contrast, arctic wetlands lack a substantial sediment layer that can perform this function, and low summer temperatures slow down those chemical reactions that do occur. Therefore, arctic permafrost wetlands are very limited in helping to improve water quality.

The Arctic Year

Winter
Summer

In stark contrast to the temperate regions of the contiguous 48 states, Alaska's arctic wetlands have two primary seasons—a winter that lasts for about 10 months, and a brief summer. Fall and spring are transition times that last for only two or three weeks. (Photos: top—Pat Pourchot; bottom—[illegible])

Arctic Habitat Availability Does Not Limit Wildlife Populations

In temperate-zone wetlands, habitat losses can result in corresponding losses of animal populations. In other words, wildlife abundance is frequently limited by wetland availability.

In contrast, there is no evidence that arctic wildlife populations—notably mammals such as caribou, and migratory waterfowl and shorebirds—are limited by the availability of arctic habitat. This means that from a biological standpoint, arctic wetlands are fundamentally different from wetlands farther south, including subarctic parts of Alaska.

It is commonly assumed that the land area of the North Slope is saturated with nesting birds during the summer, so that any loss of habitat will translate directly into a loss of productivity. To the contrary, however, many species of nesting birds, especially shorebirds, tend to be highly *dispersed* in their arctic tundra habitats. Reported North Slope nest densities for waterfowl and shorebirds are frequently below 1 per square kilometer.

After nesting and rearing their young during the brief arctic summer, migratory waterfowl and shorebirds fly south to their wintering grounds, often in Central and South America. Along the way, these birds endure crowded conditions at their staging areas, where they stop to rest and feed.

Staging areas used by migratory waterfowl and shorebirds include the wetlands of the contiguous United States that have declined rapidly since World War II. In fact, it is the continuing loss of these wetlands that causes staging migratory birds to crowd into the relatively small remaining areas of undisturbed habitats. At these locations, the birds are highly vulnerable to hunting, predation, and, due to their crowded conditions, transmission of infectious diseases. These mortality factors—not arctic habitat availability—are what probably control the population sizes of many bird species nesting on the North Slope.

Habitat reductions and resultant crowding on wintering grounds, especially those in Central and South America, are often more severe than at the staging areas. Food can be scarce in these areas, and wintering birds may be exposed to pesticides and other toxic contaminants, as well as disease, predation, and hunting.

North Slope summer habitats for nesting, rearing, and molting are necessary to the migratory bird populations that spend the summer there. However, there is no evidence that the amount of summer habitat available controls their abundance. Population-limiting factors are probably acting in locations completely outside of Alaska at times of the year when the populations are not breeding and the Arctic Coastal Plain is covered by snow.

Wildlife and oilfield facilities coexist in harmony on Alaska's North Slope. Striking proof of this lies in the fact that the population of the Central Arctic caribou herd, which migrates back and forth across the Prudhoe Bay and Kuparuk oilfields and calves in their vicinity, has increased dramatically in the past 10 years.

Snow Geese are highly concentrated at their staging and wintering areas in the contiguous United States. Populations of migratory birds such as Snow Geese that use the North Slope for nesting in summer are limited by factors controlling their staging areas and wintering grounds far to the south.

This color-infrared mosaic of computer-enhanced satellite images of Alaska's North Slope illustrates the infinitesimally small footprint of oil development in the region. It is nearly impossible to distinguish any oilfield facilities in this picture.

(GEOPIC, Earth Satellite Corporation)

N
0
100 miles
Barrow

■ 20,000 Acres
Beaufort Sea

How Large Are Wetland Losses Nationwide and in Alaska?

When one looks at the contiguous 48 states, it is clear that wetland loss is a major issue. Roughly half of the original wetlands in these states have been lost, and the loss from agriculture, human settlement, industry, and other causes continues at a high rate.

Most Alaskan Wetlands Remain Undisturbed

In contrast, approximately 99.95 percent of Alaskan wetlands remain in their natural state. Human activity has resulted in a loss of an estimated 80,000 acres, or approximately five one-hundredths of one percent (0.05%), of Alaska's wetlands, estimated to be 170 million acres at the time Alaska became a territory in 1867.

In a nationwide perspective, the current *annual* wetland reduction of 275,000 or more acres in the contiguous United States is about three and one-half times the estimated total acreage of all wetlands lost in Alaska since 1867.

Reductions Due to Oil Industry Are Extremely Small in Alaska

Wetland losses in Alaska due to the petroleum industry are estimated to be about two one-hundredths of one percent (0.02%) of Alaska's total wetlands. The oil industry impact amounts to less than 30,000 acres, or 38 percent, of the 80,000 acres of Alaskan wetlands lost from human causes.

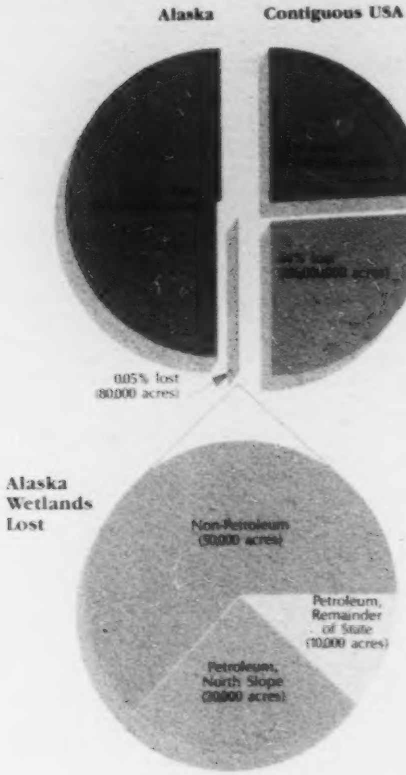
North Slope petroleum development of all types has only affected about 20,000 acres. This includes oilfield production facilities and infrastructure, the Deadhorse support area, exploration drill pads, the Barrow gas production fields, and those portions of the Trans-Alaska Pipeline System and Prudhoe Bay Haul Road north of the Brooks Range. In terms of the 37 million acres of wetlands estimated by the Army Corps of Engineers to fall within its North Slope jurisdictional region, this represents a reduction of North Slope wetlands by about five one-hundredths of one percent (0.05%).

Design Improvements Reduce Area Required for New Facilities

With improvements in oilfield layout since the Prudhoe Bay Field was started, less area is needed for facilities. In 1986, for example, the 326,592-acre lease area for the Kuparuk Field included about 2,530 acres of gravel roads, pads, and mine sites. This translates into approximately eight tenths of one percent (0.8%) gravel cover within the Kuparuk Field boundaries—compared to about 2 percent gravel cover for the older Prudhoe Bay Field.

Furthermore, it is not entirely correct to say that areas affected by oil development have been "lost." When the useful life of the oil facility is over, rehabilitation measures will be used to restore plant cover and gradually return the areas to productive habitats.

Comparison of Wetland Losses in Alaska and Contiguous USA



Wetland reductions must be put into proper perspective. Approximately half of the wetlands in the contiguous 48 states have been lost to development, while 99.95% of Alaska's wetlands are undisturbed. Alaska's wetlands cover about the same area of wetlands as exist in the contiguous 48 states.

How Are Alaska's Wetlands Protected?

Alaskan wetlands receive careful scrutiny and full legal protection by federal, state, and borough governments. Individual permits are used to control development potentially affecting Alaskan wetlands. This protection involves complex procedures for permit review and evaluation by government agencies.

Wetland Permits Receive Multiple Review by Federal and State Resource Agencies

At the federal level, Alaskan wetlands are protected by Section 404 of the Clean Water Act, which requires a permit to allow any filling of wetlands, whether on private or publicly owned land. The permit program is administered by the U.S. Army Corps of Engineers, which is required by the Fish and Wildlife Coordination Act to consult with appropriate federal and state resource agencies before each permit can be granted.

The U.S. Fish and Wildlife Service, Environmental Protection Agency, National Marine Fisheries Service, Alaska Department of Fish and Game, Alaska Department of Natural Resources, and Alaska Department of Environmental Conservation all participate in the review and evaluation of Section 404 permit applications.

In the contiguous United States, nearly 80 percent of wetland losses have been due to widespread, unregulated agricultural conversions affecting large acreages. However, the situation in Alaska is very different. Virtually all of Alaska's wetland reductions occur as a result of individual fill placements at local construction sites. This includes the North Slope, where gravel placement required for oilfield facilities is strictly regulated.

Additional protection is provided under Section 10 of the Rivers and Harbors Act, which controls potentially disturbing activities in any water body capable of floating vessels down to the size of a canoe. The Section 10 program is also administered by the Corps of Engineers and receives interagency review and evaluation in the same fashion as the Section 404 program.

Alaska's Coastal Management Program Provides Additional Wetland Protection

Alaskan wetlands are further protected by the federal Coastal Zone Management Act. Under the authority of this law, the State of Alaska administers a federally approved coastal management program which incorporates coastal management districts. The Alaska Coastal Management Program requires comprehensive review of development proposals potentially affecting coastal wetlands, including inland wetlands connecting with coastal wetland systems. State and local government agencies conduct this review, which is required prior to granting Section 10 and Section 404 permits.

Through these layers of protection, government agencies stringently control development that might affect Alaska's wetlands. As a result, reductions to Alaska's wetland habitats by human activities are kept to a necessary minimum. According to the National Marine Fisheries Service, from 1981 through 1987, years of major economic expansion for Alaska, nearly half of the total wetland acreage proposed for fill placements under the Section 10 and Section 404 programs was denied approval for development.

Alaska's wetlands are fully regulated and protected now. The total impact of development on these wetlands has been very small. Adding another layer of regulatory control, through the "no net loss" concept, would accomplish no real benefit.

Development in Alaska is already governed by a complex regulatory framework which insures that wetland habitat is protected and any impacts minimized.

Don Green

Clean Water Act

- Section 404 regulates fill placement in wetlands
- Requires prior review and evaluation before a permit is granted

Rivers and Harbors Act

- Regulates disturbance to navigable waters
- Protects shallow waters classified as wetlands
- Requires prior review and evaluation before a permit is granted

Fish and Wildlife Coordination Act

- Requires consultation with federal and state agencies prior to decisions affecting wetland developments

Coastal Zone Management Act

- Requires interagency review of development proposals affecting coastal zone wetlands
- Review is conducted prior to issuance of Section 10 and Section 404 permits

Alaska Statutes

- Govern petroleum lease operations requirements
- Protect fish and wildlife habitats including wetlands

How Are North Slope Wetland Losses Mitigated?

The acreage of wetlands affected by oil development in Alaska is indeed small—less than 30,000 acres in a state with an estimated 170 million acres of wetlands. Nevertheless, the oil industry in Alaska has been working for years in cooperation with government agencies to mitigate wetland loss. Ways have been found to minimize the area required for new facilities, to avoid important habitats, and to help rehabilitate disturbed lands.

Avoidance and Minimization Are the Most Effective Mitigation Measures

Avoidance and *minimization* are the two strategies most often used by the petroleum industry to mitigate North Slope wetland reductions. The most effective mitigation is based on in-house planning, involving close interaction between design engineers and environmental specialists from the earliest stages of a project. This approach insures that mitigation measures are *built in* to the design and scheduling of construction projects before they ever reach the permitting and construction stages.

Therefore, the siting, design, and construction of every North Slope petroleum project incorporate the results of in-house environmental design input as well as agency involvement during the permit review process. Because project planning avoids most potential adverse effects to wetlands before field operations ever begin, this often-overlooked aspect of mitigation is the most important of all.

There is general agreement by industry and government that measures to avoid important habitat and minimize gravel placement are sound practice. They avoid unnecessary loss or alteration of wetland plant communities; preserve and minimize disturbance to bird nesting concentrations, bear and fox dens, and other sensitive biological features; and maximize design efficiency, cost savings, and aesthetic benefit.

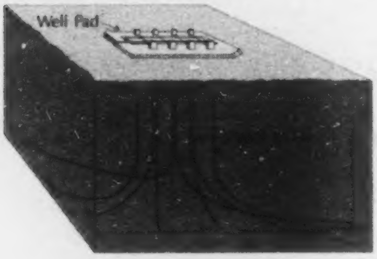
Facility Consolidation Minimizes North Slope Wetland Reductions

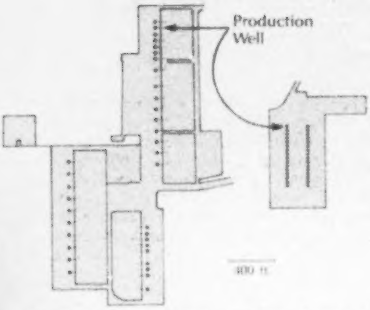
Consolidating facilities is one of the most effective practices used on the North Slope to minimize wetland reductions. Examples include:

- The extensive use of directional drilling to minimize the spacing of wells and the number of operating drill sites within each field;
- The use of a central power plant and utility gas system within each oilfield;
- The use of a central gas injection plant in the Prudhoe Bay Field, and seawater treatment plants for the Prudhoe Bay and Kuparuk fields; and
- The joint use of roads, pipeline corridors, airport facilities, and other support services by more than one unit operator, when practicable.

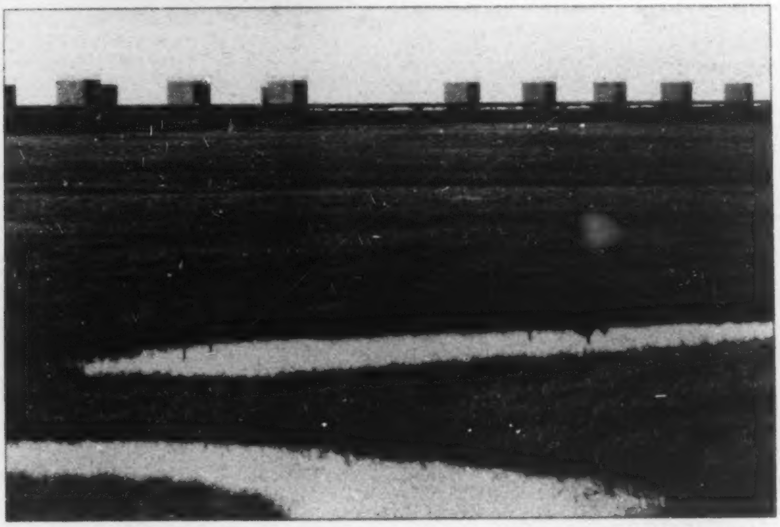
One of the best examples of facility consolidation and down-sizing on the North Slope is the reduction in production drill pad area achieved by recent technologies allowing close spacing of wellheads in combination with directional drilling. When the Prudhoe Bay Field was first developed in the 1970's, this technology was in its early stages, and drill pads were constructed to cover a much larger area than is necessary today. Future drill pads are planned to be smaller yet, as wells are drilled closer and closer together.

Directional drilling—a technique developed for the offshore oil industry—is used to tap oil reserves on the North Slope. Wells placed close to each other on gravel pads spread out underground to portions of the oil reservoir thousands of feet out from the pads. Thus, the cumulative area covered by gravel and the size of individual pads are minimized.





This diagram shows the reduction in size of Prudhoe Bay well pads, as developments in drilling technology have allowed for wells to be placed closer together at the surface. The drawing above on the left shows a typical well pad built several years ago. The diagram above on the right depicts a new experimental well pad design in which the spacing between wells has been reduced by roughly two-thirds and reserve pits have been eliminated.



This picture shows an existing production well pad, with each building housing a wellhead. New wellpads will have much closer well spacing due to improvements in facility design (see illustration at right above).

Winter Construction Minimizes Tundra Disturbance and Gravel Cover

One very effective way to avoid disturbing or covering the tundra is to build facilities in the winter through use of ice roads and ice pads. Winter construction is used successfully for building pipelines. It is also used for petroleum exploration, where all structures are designed to be removed before snow and ice begin to melt in the spring. Winter construction is standard procedure on the North Slope and is used for both exploration drilling and development of production sites and associated oilfield facilities. The technique has also been used successfully in other parts of Alaska to avoid impacts.

Rehabilitation Research Continues

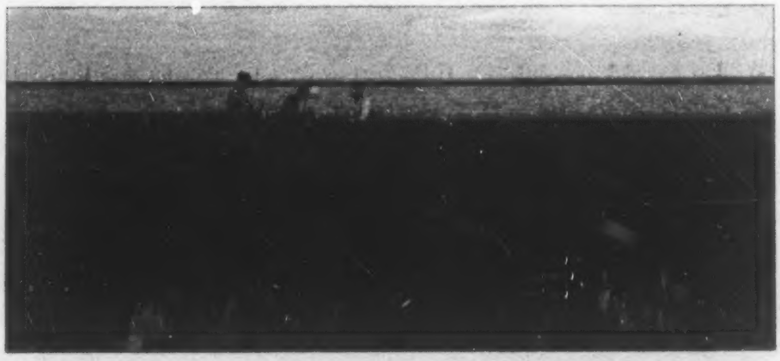
Industry is currently testing a variety of experimental approaches to rehabilitate disturbed tundra sites. Such measures provide plant cover for gravel roads and foundation pads which are no longer used.

Rehabilitation measures have not yet been applied to production facilities, because North Slope oilfields are still operational, and their roads and pads continue to be used. However, at some point in the future, production facilities will be removed, and rehabilitation will be required. Therefore, petroleum companies are conducting research to identify effective ways to establish plant cover on gravel roads and pads. In addition, research is under way to establish a native grass, *Arctophila fulva* (arctic pendant grass), in locations where local ponding has occurred near gravel roads and pads.

North Slope Wetland Mitigation Is Successful

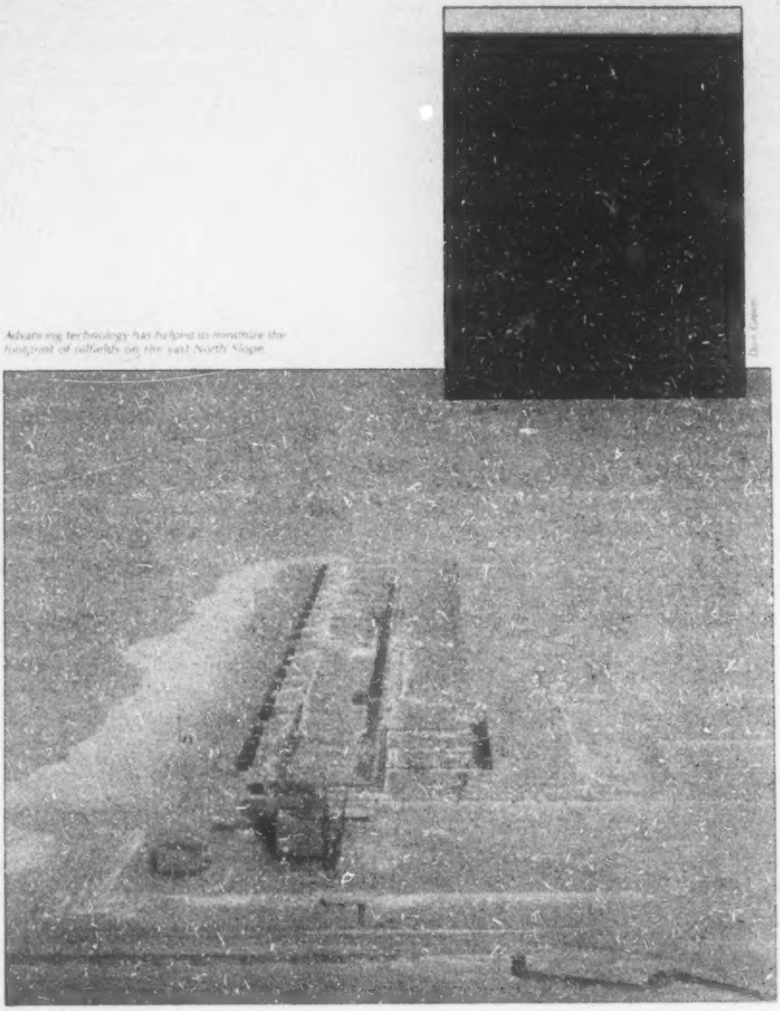
Available evidence supports the conclusion that industry mitigation measures used in Alaska are successful. After more than 15 years of intensive study by government and industry, no Alaskan wildlife population has been found to be reduced in size or regional distribution as a result of North Slope petroleum development.

Thus, there is no biological basis for concluding that wetland management techniques currently used on Alaska's North Slope are insufficient, or that additional kinds of mitigation measures would benefit wildlife populations.



Gwen Turner

This photo shows researchers harvesting Arctophila fulva, an arctic grass, for use in a study of potential ways of rehabilitating North Slope wetlands. Stands of Arctophila are considered valuable wildlife habitat. BP Exploration and the U.S. Fish and Wildlife Service are jointly managing this 5-year study being conducted by the University of Alaska.



Advancing technology has helped to minimize the footprint of oilfields on the vast North Slope.

Don Cavin

The "No Net Loss" Concept: What Does It Mean for Alaska?

A Nationwide "No Net Loss" Requirement Has Been Proposed

In response to continuing major reductions in wetlands in the contiguous United States, a new nationwide policy has been proposed to achieve no overall net loss of the Nation's wetlands. Unless it is modified, this policy would apply to Alaska. The inclusion of Alaskan wetlands in this policy would be inappropriate, because it would do virtually nothing to offset net wetland reductions across the Nation.

According to U.S. Fish and Wildlife Service estimates, there were originally about 215 million acres of wetlands in the contiguous United States. By the mid-1970's, about 99 million acres (46 percent) remained. Therefore, wetland reductions in the contiguous United States total about 116 million acres.

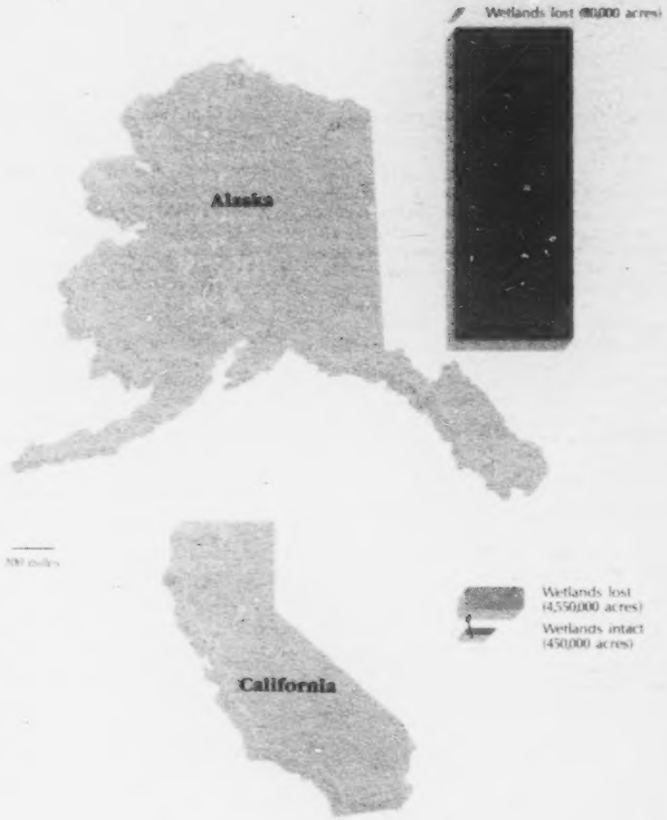
In Alaska, about 170 million acres of wetlands were present at the time of territorial accession in 1867. Of this total, just under 80,000 acres have been lost as a result of development of all types in the state. Thus, over 99.95 percent of Alaska's original wetlands remain undisturbed.

If all Alaskan wetlands were completely restored, so that no vestige of wetland loss remained anywhere in the state, the overall net loss of wetland acreage in the contiguous United States would be offset by only seven one-hundredths of one percent (0.07%).

Alaskan wetland reductions due to petroleum exploration and production—including the Trans-Alaska Pipeline System and associated Dalton Highway—total just under 30,000 acres statewide. Complete restoration of these Alaskan wetlands would offset losses in the contiguous United States by only three one-hundredths of one percent (0.03%).

Finally, restoring the cumulative tundra acreage covered by Alaska's North Slope oilfields would add only about 8,000 acres to the national wetlands base. Complete restoration of this North Slope tundra would offset wetland reductions in the contiguous United States by seven one-thousandths of one percent (0.007%).

Thus, even if complete restoration of Alaska's wetlands were possible, the result would clearly be too small to provide any significant reduction in nationwide wetland losses. Application of a "no net loss" requirement to Alaska would be an empty gesture.


Wetlands lost (80,000 acres)
Alaska
200 miles
California
Wetlands lost (4,550,000 acres)
Wetlands intact (450,000 acres)

Alaska's wetlands have barely been touched by oil development, despite the fact that Alaska provides about 25% of U.S. domestic oil production. In California, on the other hand, over 90% of the wetlands in the state have been lost to development.

Alaskan Wetlands Are Not Scarce

There is no scarcity of Alaskan wetlands. They represent an area larger than the states of California and Oregon combined. North Slope oilfields have reduced this area by only five one-thousandths of one percent (0.005%). Yet, they provide one-quarter of the Nation's domestic oil production. This appears to be a reasonable tradeoff.

It is worth remembering that arctic permafrost tundra is very different from the productive temperate-zone wetlands which have been so drastically reduced in the contiguous United States. The amount of arctic habitat available to wildlife is not thought to limit their abundance. The evidence shows that the minor tundra coverage necessary for North Slope petroleum production has not caused any measurable effect on the wildlife populations using the region.

Alaskan Wetlands Should Be Excluded from "No Net Loss" Policy

There is no discernible reason to apply a "no net loss" requirement to Alaskan wetlands. Even if all of Alaska's wetland reductions could somehow be reversed, nationwide wetland losses would be offset by an amount too small to be numerically or biologically significant. In fact, current *annual* wetland reductions in the contiguous United States appear to be about three and one-half times the estimated total acreage of all wetlands lost in Alaska since the territory was purchased from Russia in 1867.

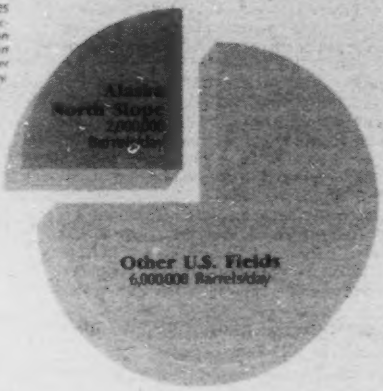
A Policy of "No Net Loss" for Alaska Would Create Serious Economic Consequences

Oil production from the Prudhoe Bay Field began in 1977 with completion of the Trans-Alaska Pipeline. Other North Slope fields have come on line since then—Kuparuk, Endicott, and Lisburne. Together the North Slope fields provide about 2 million barrels of oil per day.

In economic terms, approximately 30 million dollars worth of oil flows each day into the Trans-Alaska Pipeline. This amounts to over 10 billion dollars per year—a large contribution to reducing our dependence on foreign oil.

In addition, North Slope oil is important for the economy of the State of Alaska. The oil industry provides jobs and stimulates the Alaskan economy. Furthermore, through taxes and royalty payments, North Slope oil substantially supports state government. Thus, the economic importance of North Slope oil development cannot be overlooked in wetland policies.

The Alaska North Slope oilfields provide 25 percent of the daily U.S. domestic oil production. This amounts to approximately 2 million barrels per day. Since oil production began in 1977, the North Slope has contributed over $150 billion worth of oil to the U.S. economy.



Approximate Daily U.S. Crude Oil Production

North Slope oilfields provide a significant portion of the country's energy needs. Yet the impact of that development has been minimal. The most compelling proof of this is the fact that fish and wildlife populations continue to feed, reproduce and rear their young throughout developed portions of the North Slope.

Chris Harington

Conclusion

It is true that wetlands are important for biological, hydrologic, and social reasons. It is also true that more than half of the original wetlands in the contiguous 48 states have been lost to development. Thus, there is no doubt that those remaining wetlands must be protected.

However, the situation in Alaska is far removed from that in the rest of the country. Alaska's wetlands are in no danger; they are 99.95 percent intact. Furthermore, millions of acres officially classified as wetlands do not have the features for which wetlands are valued.

This difference between wetlands in Alaska and those in the rest of the country makes it important to recognize the following:

- The "no net loss" approach is not appropriate for Alaska.

- Alaska and the rest of the country should not be linked by a wetland policy which does not account for important regional differences.

- North Slope wetlands, in particular, should be regulated in a way that recognizes their difference.

- *Avoidance* and *minimization* of wetland disturbance are the only approaches that can achieve *real* mitigation for arctic Alaska.

- Gravel-covered areas will be rehabilitated to suitable wildlife habitat.

Oil exploration and development on Alaska's North Slope have resulted in 25 percent of the country's daily domestic oil production. And the impact of that carefully planned and regulated development is barely discernible on the vast landscape of the North Slope.

Don Green

Arctic cottongrass provides the foreground in this picture of the Trans-Alaska Pipeline as it winds across the North Slope, en route to the tanker terminal at Valdez on Alaska's south coast.

ARTBA

American Road & Transportation Builders Association

TESTIMONY

of

Brian R. Holmes

Before the
House Public Works & Transportation
Water Resources Subcommittee

February 28, 1990

On behalf of

American Road and Transportation Builders Association (ARTBA)
Connecticut Construction Industries Association
Nationwide Public Projects Task Force

501 School Street, S.W., Eighth Floor, Washington, D.C. 20024-2713 • (202) 488-2722 • FAX (202) 488-3631

C C I A

CONNECTICUT CONSTRUCTION INDUSTRIES ASSOCIATION, INC.

912 SILAS DEANE HIGHWAY, WETHERSFIELD, CONN. 06109

My name is Brian Holmes, and I speak to you today in three separate but related capacities. First, as the director of regulatory affairs for the Connecticut Construction Industries Association, I represent the horizontal construction industry in Connecticut, which means road, bridge, sewer, and utility contractors, construction equipment dealers, materials suppliers, as well as allied professions. Second, I speak as a representative of the American Road and Transportation Builders Association, which represents the transportation construction industry, as well as state and local officials, engineering educators and consultants, and the construction equipment manufacturers. Third, I speak as a member of the Nationwide Public Projects Task Force, which is made up of state and local entities whose water and transportation projects are built to provide for the needs of the people they serve.

The present federal scheme of wetlands protection and regulation has been characterized by no less than the President of the United ates as one where "too often, agencies work at cross purposes, th different standards and different goals."

would like briefly to explore with you who these agencies are, how they work at cross purposes, how their standards and goals differ, and, finally, why the recently concluded Memorandum of Understanding between the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency confirms rather than rectifies the President's characterization of the federal wetlands regulatory process.

The federal wetlands protection process begins with the National Environmental Policy Act, or NEPA. In addition to setting forth the different types of mitigation adopted by the MOA, NEPA regulations provide that a project's environmental impact statement shall include, among other things, a statement of purpose and need and an alternatives analysis. The alternatives analysis is supposed to include appropriate mitigation measures, to the extent these have not been included in the exposition and analysis of the proposed action and the alternatives. In commenting upon the project's EIS, cooperating agencies with jurisdiction by law (such as EPA and the Corps for wetlands projects) are required to specify their Section 404 wetlands concerns and the mitigation measures they consider necessary. The Corps is additionally required under its own regulations to insure that the EIS may be adopted by the Corps for purposes of exercising its regulatory authority.

The sad fact is that these agencies do not comply with their responsibilities under NEPA. And that, I submit, is the genesis of the language in the MOA to the effect that projects will be changed in the 404 process even though they have already gone through the NEPA process and the language that says that even though a project has fully complied with NEPA, it is subject to being blocked in the 404 process. When you are dealing with public works construction, which have lead times measured in decades rather than months or years and which are built with taxpayers funds, it is inexcusable for regulatory agencies to hang back from forthright disclosure in the NEPA process in order to ambush projects in the 404 process. And yet, with disturbing regularity, this is what happens to public works construction projects.

In his testimony before the Subcommittee on Investigation and Oversight, the Assistant Secretary of the Army characterized the Corps of Engineers as an "honest broker." I would like to take issue with that statement in two respects. First, the Corps has reserved for itself the right to determine the purpose served by a project, in other words to disregard the statement of purpose used in the NEPA process. Basically, the Corps will redefine the purpose of a project in order to resurrect an alternative that had been rejected in the NEPA process in order to deny the project a Section 404 permit.

Second, by signing the MOA the Corps of Engineers has acquiesced in a violation of its own regulations. The MOA adopts a sequencing approach to the evaluation of mitigation. Corps' regulations state otherwise: "Consideration of mitigation will occur throughout the permit application review process and includes avoiding, minimizing, rectifying, reducing or compensating for resource losses." Mitigation banking simply doesn't exist in Corps regulations; nor do "the specific criteria designed to ensure the creation of an environmentally successful bank." Corps regulations provide for dedicating wetlands acreage for public use and acquiring or preserving 'mitigation lands' as part of compensatory mitigation, but the MOA purports to limit the use of purchase or preservation to "exceptional circumstances," whatever that might mean.

The haste with which EPA has tried to enact the recommendations of the Conservation Foundation's National Wetlands Policy Forum (without benefit of needed legislation or formal rulemaking) is truly astounding. If you read the 404(b)(1) guidelines, you will find no mention of compensatory mitigation. Nor will you find mention of such embellishments as in kind vs. out of kind, on site vs. off site, or replacement ratios. They simply aren't there. The only types of mitigation that the guidelines mention are avoidance and minimization. EPA will tell you, if you ask, that compensation is included in minimization, which seems to be clearly the opposite intent of the CEQ regulations and the MOA, which draw distinctions between the different types of mitigation. The MOA goes even further to ride roughshod over the guidelines by excluding consideration of compensatory mitigation from the alternatives analysis or the issue of significant degradation of the waters of the United States. Contrary to what the MOA says, the guidelines are quite clear: "When a significant ecological change in the aquatic environment is proposed by the discharge of dredged or fill material, the permitting authority should consider the ecosystem that will be lost as well as the environmental benefits of the new system."

It is difficult, if not impossible, to address in five minutes all of the problems afflicting the Section 404 process, the problems created by the MOA, and most important, what should be done to coordinate and rationalize the protection of our wetland resources, without unnecessarily wasting the taxpayers' money and jeopardizing needed public works infrastructure construction projects, which provide for future growth and development.

I would be happy to respond to your questions.

TESTIMONY OF
THE ALASKA WETLANDS COALITION
BEFORE THE
SUBCOMMITTEE ON WATER RESOURCES
HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION

FEBRUARY 28, 1990

MR. CHAIRMAN: My name is William Horn and I am appearing on behalf of the Alaska Wetlands Coalition.

The Alaska Wetlands Coalition is a voluntary alliance of Alaska municipalities, labor unions, Native corporations, individuals, and resource companies, which joined together to deal with changes and problems that are arising from the Clean Water Act § 404 program in Alaska. That such a diverse group in Alaska has come together for such a common purpose speaks volumes about the level of concern they share.

An enormous amount of Alaska qualifies as "wetlands": 170 million acres, more than seventy percent of the non-mountainous area of the State and an area almost equal the size of Texas. This is double the wetland acreage of the lower 49 states. The pervasive nature of such wet areas makes it virtually impossible for any community expansion or prudent development to proceed without encountering the § 404 program. Consequently, the Federal government has become for all intents and purposes a local zoning authority in Alaska as a result of this regulatory program. The wide swath cut by § 404 ensures that even the threat of programmatic changes in § 404 ensures the immediate concerned attention of citizens of Alaska.

The degree of wetland losses, and the potential for wetlands restoration, differs markedly among the states. Alaska still has an estimated ninety-nine and one-half percent of its wetlands and much of these lands are conserved in perpetuity in the Federal Conservation System Units (i.e., National Parks, Wildlife Refuges, Wilderness Areas). Eighty-eight percent of Alaska is publicly-owned: sixty percent by the Federal Government and twenty-eight percent by the State of Alaska.

It is also quite clear that there are differences among and within states as to the ability of given wetlands to serve "water quality-related" functions (natural filters, flood control, ground water recharge) -- functions which § 404 was intended to preserve and restore. In Alaska, the extent of "wetlands" is vast, but much of it exhibits low functional values (i.e., water quality-related values) and low habitat values for fish and wildlife. Many of these "wetlands" are caused by permafrost or are peculiar features of northern latitudes (e.g., tundra, muskeg). These lands bear no resemblance to the classic highly productive wetlands found in and around such noteworthy areas like Chesapeake Bay. Any revamping of the § 404 program or a "no net loss" proposal must account for these facts.

Alaska has already encountered numerous problems with implementation of the existing § 404 program. This Committee knows that not every wetland in the United States is subject to § 404 jurisdiction -- not by a long shot. Much of Alaska's wetlands are not subject to Corps jurisdiction at all, as technically defined, because these lands are not adjacent or tributary to "waters of the United States." Rather, they are created by rain or snow melt captured in permafrost and other impermeable basins. But "bullish" suggestions that § 404 jurisdiction extends over all wet migratory bird or endangered species habitat have left many property owners in Alaska frustrated and scared. It should scare other citizens too. Thus far, the courts have ducked the issue because they do not like what they see. Expansive definition of jurisdictional wetlands threatens to insert Federal authorities into an array of local land use decisions. As noted, this has happened in Alaska and may happen elsewhere.

The acuteness of this problem is demonstrated by the fact that ninety-eight percent of the State's communities are in, or adjacent to, wetlands as broadly defined.

The rights of Alaska Native corporations to develop their lands pose problems never fully considered by EPA or the Corps --questions for the Congress as to the fairness of the Alaska Native claims settlement. In 1971, Congress granted forty-four million acres of land to Alaska's Natives in return for extinguishing their aboriginal land claims. It is inconceivable that one year later the same Congress enacted a law which foreclosed development of these same lands by putting them in a regulatory straitjacket. Any "no net loss" proposal must consider this situation so that the program does not effect a compensable taking of the Native land interests.

Adverse effects on community development are a primary concern of the Alaska Wetlands Coalition. This concern has been elevated by EPA's activity in the "advanced identification process" it has initiated pursuant to 40 C.F.R. § 230.80, at Homer, Juneau, and the Colville River Delta. The mere presence of jurisdictional wetlands seems to cause EPA to oppose dredge or fill activities, or to refuse to consider the other public interest considerations the Corps must examine. The proposals will circumscribe needed community growth. If this level of impact and inflexibility arises now, it is probable that a no net loss program -- unless carefully crafted -- will generate even greater adverse impacts.

Although the Wetlands Coalition is concerned about Alaska, there are broader policy issues that affect all citizens and States. We believe these matters are worthy of close scrutiny. It appears that EPA and the Corps are being pushed into jurisdictional rulings (on the isolated and adjacent wetlands issues) that will convert every isolated natural sink for rainwater or snowmelt in this country, if visited by blackbirds or endangered species into an area regulated by the § 404 program. This would mean a revolution in zoning law and expose the Treasury to a landslide of inverse condemnation decrees. It would render "jurisdictional" under § 404 vast new areas of Alaska and work a drastic shift in land management responsibility to EPA.

Congress has not remotely considered, much less authorized, this extension of Federal zoning power. Congressional debates in 1977 show near unanimous opposition to overreaching EPA interpretations of Congressional intent as to the territorial reach of § 404. Congress never intended to enact a statute extending Corps' jurisdiction to the furthest extent of the Commerce Clause, as EPA now appears to contend. If jurisdiction is nevertheless extended by the courts, what should be the criteria for a return to local control over zoning, and for avoiding takings? These jurisdictional issues are ones Congress and the Domestic Policy Council simply must deal with.

The Alaska Wetlands Coalition is persuaded that wetlands conservation can be effectively pursued without bringing community growth and prudent development in Alaska to a screeching halt. The Coalition looks forward to working with the Administration on § 404 reform and consideration of a no net loss goal. It also looks forward to working with Congress regarding legislative oversight and enactment of new law if necessary. All we ask is that decisionmakers pay particular attention to the unique physical, legal, and social circumstances found in the 49th State. In an effort to save the dwindling wetlands of the Lower 48, the Coalition seeks to ensure that no undue restraints are imposed on Alaska.

Thank you for your attention.

STATEMENT OF PAUL D. KAMENAR
EXECUTIVE LEGAL DIRECTOR, WASHINGTON LEGAL FOUNDATION

before the
Subcommittee on Water Resources
Committee on Public Works and Transportation
United States House of Representatives

February 28,1990

Mr. Chairman and Members of the Subcommittee:

I am Paul D. Kamenar, Executive Legal Director of the Washington Legal Foundation (WLF), a non-profit public interest law and policy center with approximately 120,000 members and supporters nationwide. WLF litigates, participates in the administrative process, and contributes to the public debate, including testifying before Congress, on issues affecting the free enterprise system, individual rights, and judicial reform.

With respect to environmental issues, we have participated in many court cases on behalf of ourselves as well as numerous Members of the Congress and Senate, where environmental laws, such as the National Environmental Protection Act (NEPA) were used by environmental groups to stop vital national security projects. More particularly, we have litigated several cases relating to wetlands enforcement where we believe that the Environmental Protection Agency and/or the Corps were insensitive to private property rights and engaged in enforcement overkill. While we believe our important natural resources need protection, we believe as President George Bush stated recently during his State of the Union Address, that the "needs of a clean environment" must be reconciled with the "needs of a strong economy." In addition, we believe that the EPA and Corps have been totally oblivious to other constraints on their activities, especially the application of Executive Order 12630 requiring agencies to conduct a "Takings Implications Analysis" and the Paperwork Reduction Act requiring OMB control numbers for their regulations and application forms that request information from the public.

In one such case, we are representing John Pozsgai, a property owner from Pennsylvania who was given a three-year jail term, and fined over $200,000 for placing topsoil and clean fill on a couple of acres of his own property-- an old dumpsite in an industrial area of town near Trenton, New Jersey that he cleaned up after he purchased it in 1987-- because he did not have a permit. This case is discussed later in my testimony in some detail. In Florida, a 58-year old man and his son are serving a two-year jail term for placing 11 loads of clean sand on a half-acre of their property.

In addition, our office is being flooded with numerous requests for legal assistance from senior citizens, farmers, small businessmen, and others, who are unreasonably being denied their right to develop a few acres of their own property, threatened with enormous fines and criminal prosecution.

Our primary concern is that the EPA and Corps of Engineers have taken the Clean Water Act and administratively transformed it into some kind of Wetland Protection Act without the authorization of Congress and full public debate over the ramifications of their actions. The Clean Water Act's goal of having our waters to be "swimmable" and "fishable", while laudable, are being ignored by the EPA while it spends countless tax dollars enforcing its regulations against the placement of fill on property marginally a wetland, and having nothing to do with the water being clean or "swimmable" or "fishable." In short, what we have is the regulatory tail wagging the statutory Congressional dog. The word "wetlands" is nowhere defined in the law. Neither the President nor an agency can unilaterally impose a law, no matter how beneficial it may be to the environment. If wetlands are that important, then Congress can and must address that issue squarely in legislation as have many States rather than leaving the enforcement of this vaguely defined policy against your constituents to the whim and caprice of uncontrolled regulators.

In one case, United States v. Bersani, 850 F.2d 36 (2d Cir. 1988) WLF intervened on behalf of Citizens in Support of Attelboro Mall, a citizens group that strongly supported the building of a much needed shopping mall in their economically depressed community. WLF opposed the exercise of the vetoing authority by the EPA under 33 U.S.C. 1344(c) over the permit granted by the Corps of Engineers to fill in a portion of Sweedens Swamp in Attleboro, Massachusetts, an isolated "wetland" not adjacent to any tributary of any water of the United States. Nevertheless, the Corps assumed regulatory authority over this private property that was more of an eyesore to the community, having been used as a dumping grounds for years. In any event, the developer offered to mitigate any damage to the swamp both on-site and creating additional wetlands off-site. The developer agreed to post a million dollar bond, and begin mitigation efforts before any filling activity of the site.

The Corps of Engineers, which is usually reluctant to grant such filling permits, determined that the project in this case was environmentally sound, and that the net environmental value of the project would be one, to one and a half times greater than the status quo. Nevertheless, the EPA exercised its veto over the permit, finding that the wetland served some habitat for a few birds and some common mammals, and although the loss of such wildlife habitat was not significant in and of itself, the EPA looked at the loss of wetlands both regionally and nationally to penalize unfairly the developer who was prevented from using his property.

Under this rationale, the EPA can veto any permit on the non-statutory basis that in its view, enough wetlands have been filled, even though section 404(c) requires that the EPA look only at the impacts at the site in question, as opposed to considering unconnected wetlands regionally or nationally. For under the latter analysis, the EPA could always veto any Corps permit on the grounds that enough wetlands have been lost.

The actual decision in the case turned on the alternative site test imposed by the EPA, that is, whether another non-wetland site was available to the developer since the shopping mall was not water dependent. While we agree with the dissenting judge in that case, we believe the alternative analysis test is inapplicable to projects that are proposed for isolated wetlands, since by definition, they cannot be water dependent. In other words, if a project is proposed that requires filling of a wetland adjacent to a river or bay, the Corps will not require an alternative analysis test if the project is dependent on it being near the water, such as marina facilities. However, for isolated wetlands, by definition, there can never be a water dependent project since there is no water to be used. In short, those who propose to develop their land which contains isolated wetlands are penalized compared to those who conduct filling activity near open water, and thus, more likely to harm the interests Congress sought to protect most by enacting the "Clean Water Act".

UNITED STATES v. JOHN POSGAI

John Pozsgai is a self-employed truck mechanic who works, as he has for the last ten years, 7-days a week, out of a small garage beyond his house fixing trucks to support himself, his wife, and his two daughters. Prior to that he had worked for International Harvester in Trenton before it closed its doors in 1980. His house is located across the street from a 14-acre dumpsite in an industrial area of Morrisville, Pennsylvania near Trenton, New Jersey which had been used for over 20 years as a dumping ground and land fill. The property is bordered on the north and south by major roads, to the east by a tire dealership, and on the west by an automobile salvage yard. Mr. Pozsgai saw that property not as a dump, but as an opportunity to fulfill a lifelong dream of buying a piece of property on which he could build a garage to expand his small truck repair business.

Having saved enough money for a down payment, he purchased the property in June 1987 and mortgaged his small wooden-frame house to finance the purchase. He then began the herculean task of cleaning the property up by removing over 7,000 used tires that had been dumped there over the years, along with other accumulated junk such as rusted auto body parts, before placing clean fill and topsoil on 5 acres of the site.

Meanwhile, the Environmental Protection Agency and Corps of Engineers paid several visits to Mr. Pozsgai claiming that the dumpsite contained some "wetlands," (about 12 out of 14 acres) and therefore required a permit from the federal government before fill could be placed on the land. The site, however, is not listed on the Department of Interior's National Wetland Inventory Map, and certainly did not appear to be a "marsh, swamp, or bog" which the Corps claims are typical wetlands. In addition, Mr. Pozsgai claimed he was informed by various local officials that no permit was required if clean fill was placed on the property.

The EPA claims it had jurisdiction over this so-called "wetland" because the land is adjacent to a tiny stream which borders the property on the east. This "stream," which was dry most of the year, was a few feet wide, and had a tendency to flood a portion of the site after heavy rains due to the damming effect caused by the old tires thrown into the stream. Once the tires were removed, the flooding would cease. To the EPA and the Corps, however, the cause of the "wetland" conditions, is irrelevant. It was also irrelevant that Mr. Pozsgai did not put any fill into the stream. Indeed, Mr. Pozsgai had installed a protective silt skirt fence along the stream after consulting county officials.

As far as the EPA and Corps were concerned, once they make a determination that the property is a wetland, federal jurisdiction comes into play. Yet there are "wetlands" and then there are so-called "wetlands." The familiar type of wetlands are estuaries, marshes, swamps, and bogs near open bodies of water that can serve as fish and wildlife habitats, or as a filtering area for pollutants that might otherwise affect water quality. Mr. Pozgai's property is in an industrial area of town, far from any ocean, bay, or river. No one claims that this "wetland" is a marsh, swamp, bog, or anything close to it. Nor does it serve as a fish or wildlife habitat, unless you want to count a few squirrels. Nevertheless, the Corps cursory soil samples of the site as well as the presence of such "rare" vegetation as"skunk cabbage," and Sweet Gum trees, a common variety of tree, indicated to the Corps that most of the dumpsite was technically a "wetland.

Indeed, so insignificant is this "wetland," that the Corps has a regulation that authorizes placing fill on 10 acres or less of "wetlands" that are essentially isolated. If a citizen wishes to take advantage of the regulation, no application for a permit is required to be completed by the Corps own regulations. Yet in typical Catch-22 fashion, the Corps was demanding that Mr. Pozsgai fill one out. With the help of his daughter, Mr. Pozsgai tried in vain to get several engineers to complete the confusing and complicated paperwork.

The EPA had enough of Mr. Pozsgai placing topsoil on his own property, so they set up secret surveillance video cameras to record some of the filling activity. They then obtained an temporary restraining order without any hearing. This property was so valuable that the Corps felt it unnecessary to even give a call to the company which had placed most of fill on the property for over a year, even though they knew the telephone number. Armed with this evidence as well as several aerial photographs, the EPA had Mr. Pozsgai arrested and indicted in September 1988 for "discharging pollutants into waters of the United States." Keep in mind that the "pollutants" consisted of earth, topsoil and clean fill. The EPA readily admits that no toxic or hazardous waste was involved. Keep also in mind that the "waters of the United States" was not the tiny stream on Mr. Pozsgai's property, but the adjacent dumpsite that had been determined to contain "wetlands." There was no damage to water quality; if anything, the stream ran clearer because of Mr. Pozsgai's cleanup efforts. But again, the EPA is not concerned with water quality and whether our rivers and lakes are "swimmable" and "fishable"; rather, they're concerned with how far their jurisdictional authority can be stretched, regardless of the goal set by the Congress.

The government was going to spare no expense in criminally prosecuting this "major" water polluter (although there are ample administrative and civil remedies available to the EPA to handle these minor regulatory matters). Drug dealers and violent criminals would have to wait the prosecutor's attention.

The trial took place during the holidays from December 26-30, 1988. The lead prosecutor, Assistant U.S. Attorney Seth Weber was so confused by the Clean Water Act's requirements himself that he mistakenly thought that Mr. Pozsgai needed a National Pollutant Discharge Elimination System permit under Section 402 of the Clean Water Act from the EPA which is required for factories discharging wastes into water rather than a simple fill permit from the Corps of Engineers. Nevertheless, the jury, obviously impressed with the videotapes and the government's expert witnesses, found Mr. Pozsgai guilty.

On July 13, 1989, Mr. Pozsgai received his sentence. At the urging of the prosecutor, U.S. District Court Judge Marvin Katz sentenced Mr. Pozsgai, who has no criminal history, to three years in jail, the maximum sentence under the Clean Water Act, fined him over $200,000, ordered him to be placed on probation for 5 years after he serves his 3-year prison term, and to restore the property not to what it was, but to a pristine wetland according to plans by the Corps of Engineers. The judge and prosecutor ignored the probation report that this "crime" was not serious, that Mr. Pozsgai's wife, also a Hungarian immigrant, has a heart condition and that jailing her husband, her sole support, would likely kill her, and that the fines would impoverish Mr. Pozsgai who has a negative net worth and a meager income. Rarely do we see such examples made of rapists, child molesters, or drug dealers.

The Washington Legal Foundation was asked by Mr. Pozsgai to represent him on appeal before the United States Court of Appeals for the Third Circuit. On January 12, the Third Circuit upheld the conviction without any opinion at all. We are now planning to take our case to the Supreme Court this spring. The sentence imposed on Mr. Pozsgai would be the longest prison term that would be served by anyone in the Nation's history for violating the Clean Water Act, or, for that matter, any other environmental law. Research by the Foundation of all environmental crimes from fiscal years 1983-1989 show that the usual disposition of environmental crimes is by a moderate fine and probation. In the rare case, a small jail term may be imposed for a serious polluter dumping toxic or hazardous wastes.

Why was Mr. Pozsgai targeted for the most serious penalty the law has to offer for simply putting clean fill on his own property? To quote the prosecutor, "a message must be sent to all land owners, the corporations, the developers of this country" that fines, probation, and short prison terms are a thing of the past for environmental offenses, especially those involving wetlands, because of President Bush's no net-loss of wetlands policy.

The government means business, at least when it comes to prosecuting the little guy. For at the same time federal prosecutors were going after Mr. Pozsgai as if he were Public Enemy No. 1, they were prosecuting another major water polluter in Florida. Ocie Mills, a 57-year old retiree, and his son were convicted and sentenced to two years in jail for placing only a half-acre of clean fill and topsoil on his property without a permit, even though Florida officials informed him that none was required. Ocie Mills, who defended himself, proved no match to the three federal prosecutors assigned to the case. Unlike Mr. Pozsgai, who was luckily placed on bail pending appeal, Mr. Mills was ordered incarcerated while his appeal works its way through the courts. Mr. Mills has already served 10 months of his sentence.

In short, the government intends to use the Pozsgai case as a precedent to start imprisoning corporate officers and other businessmen for environmental offenses, even though heretofore, wetland cases have been prosecuted only in civil proceedings. The Justice Department and the EPA eagerly point out to the press the "Pennsylvania and Florida cases" as examples of how tough they can be on water polluters without discussing any of the facts in those cases.

As for explaining how a typical arsonist would receive a much more lenient sentence than that meted out against Mr. Pozsgai, the Justice Department responds in its appeal brief that arson "is directed at a limited number of victims" whereas the victims of Mr. Pozsgai's so-called crime "include the public at large."

The government also takes great offense at the Foundation's other arguments on appeal. For example, we argue that the statutory definition of "pollutants" means a discharge of wastes into "water" not "wetlands," and that therefore, since Mr. Pozsgai did not dump anything into "water," no crime took place. The Justice Department finds our interpretation of "water" to mean liquid "water" to be an "innovative reading of the Clean Water Act." Only to government bureaucrats at the EPA and Corps of Engineers, with an ever-increasing jurisdictional appetite, would the placing of earth on other earth constitute a discharge pollutants into water. Look who's being innovative.

As for failing to prove at the trial that stream was a tributary to the Pennsylvania Canal, or that the canal was used in interstate commerce (both of which are prerequisites to federal jurisdiction) the government had no testimony showing the stream was a tributary. The only evidence they point to are two aerial photographs which the EPA claims show the stream as flowing into the canal. Those photographs had been mysteriously missing from the clerk's office until after the briefing was over in the case. When finally located, a glance at the photographs do not show the stream as tributary since Mr. Pozsgai's property is separated from the canal by no less than a 4-lane major highway. As for the government's failure to show that the canal was used for interstate commerce, the government blithely responds that the dictionary defines "canal" as a waterway used in navigation and the jury can simply assume it was used in interstate commerce. Lewis Carroll's Queen of Hearts of"conviction first, trial later" and "words mean precisely what I want them to mean" fame would be jealous.

We also point out that by the Corps' own estimation, over 97 percent of the permit applications are granted, or so they claim. If that is true, then Mr. Pozsgai was prosecuted for not harming the environment, but merely not having a permit to place clean fill on his property. Indeed, Mr. Pozsgai has an appeal pending before the Pennsylvania Environmental Hearing Board to review that state's denial of what otherwise would be a routine after-the-fact permit, especially where Pennsylvania has conceded that these were not important wetlands at all. It would certainly be a gross miscarriage of justice if Mr. Pozsgai were to spend three years in jail and be liable for $200,000 in fines if he were to get an after-the-fact permit that not only authorizes the fill already placed on 5-acres of the 14-acre site, but also permit him to place fill on yet another 5 acres because of the 10-acre nationwide permit exception for insignificant wetlands such as those here.

There are over 290 million acres of wetlands in the United States. While certain wetlands are important, it seems totally unreasonable and unjust to impose the maximum penalties of the law on the loss of a few insignificant acres of a so-called "wetland." The EPA and Corps would have wetland protection be on a par with the Endangered Species Act. In Pennsylvania, where Mr. Pozsgai was prosecuted, reports indicate that there was a net gain of some 10,000 acres of wetlands from the 1950's to 1970's. And yet the Corps itself has come under criticism for destroying thousands of acres of wetlands by its Yazoo River Project

Regardless of the outcome of the Pozsgai and Mills cases, the Justice Department, White House, and Congress need to take a hard look to determine whether overzealous prosecutors and EPA and Corps officials are invoking President Bush's concern for the environment to justify unreasonable enforcement actions. To most Americans, scarce agency resources would be better spent curtailing serious polluting activities, and that criminal prosecutorial resources would be better spent fighting drug dealers or rapists than imprisoning senior citizens whose only crime was to try to realize the American dream of owning and developing their own property.

The recently concluded Memorandum of Agreement between the EPA and the Corps should be subjected to notice and comment by the public with hearings before it is implemented. And while the final version was modified to take into account "insignificant" filling of wetlands, if the Pozsgai and Mills cases are any indication of what the Corps means by "insignificant," it is unlikely that there will be any flexibility or reasonableness to the implementation of the goal of "no net loss of wetlands".

Thank you for the opportunity to present our views.

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STATEMENT OF THE AMERICAN FARM BUREAU FEDERATION TO THE HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE

SUBCOMMITTEE ON WATER RESOURCES REGARDING WETLANDS PROTECTION AND AGRICULTURE

Presented by Mark A. Maslyn
Assistant Director, National Affairs Division

February 27, 1990

STATEMENT OF THE AMERICAN FARM BUREAU FEDERATION TO THE HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE SUBCOMMITTEE ON WATER RESOURCES REGARDING WETLANDS PROTECTION AND AGRICULTURE

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On behalf of the American Farm Bureau, I appreciate the opportunity to be here today to address the topic of wetlands protection and agriculture. Farm Bureau is the nation's largest general farm organization representing more than 3.6 million member families in 50 states and Puerto Rico. Our members produce virtually every agricultural commodity grown or raised commercially in the United States.

For several commodities, wetlands play a vital and intrinsic role in production. Cranberries, for example, are a native wetland crop species. They require about 5 acres of support land that includes ponds, wetland reservoirs and uplands to support each acre of bog. Other crops such as rice, aquaculture and some types of timber also are closely linked to wetlands. Beyond that, however, nearly every type of agriculture is affected by current wetlands protection laws and regulation, from "swampbuster" to Section 404 of the Clean Water Act, and a myriad of state and local regulations.

I should state at the outset that Farm Bureau was a participant in the recent National Wetlands Policy Forum. Our members recognize the importance of wetlands and the need to preserve those wetlands identified as valuable. We also recognize that not all wetlands possess the same value, and that public policy must recognize and balance competing needs and economic forces. In January 1990, our voting delegates adopted the following policy:

"The protection of our wetlands has become a national priority. We believe a cooperative approach to wetlands issues is much preferred and can provide mutual benefits to landowners, farmers and ranchers, as well as those interests who seek to protect and preserve wetlands.

"Therefore:

"(1) We support the cooperative efforts on wetland and related land issues and will work with water, wildlife and other agricultural groups to achieve acceptable solutions and mutual benefits, both economic and otherwise, on these issues.

"(2) We believe wetland protection programs should emphasize economic incentives to farmers and ranchers rather than acquisition and perpetual easements. Farmers must be represented on any appointed study commission, state or national.

"(3) All efforts and programs must rely upon voluntary and willing participants.

"(4) We believe that cooperative efforts on wetland issues should emphasize management and flexibility."

Background:

In any discussion about wetlands protection, it is helpful to remember that for much of our history, wetlands have been viewed as a problem to be eliminated rather than a resource to be protected. Under the first wetlands law in this country, the Federal Swamp and Land Act of 1849, the federal government gave wetlands away to individuals on the condition that they be drained and converted to something more useful. Wetlands have long been considered a source of disease and sickness, and their alterations were not merely condoned but encouraged.

Wetlands were altered for purposes that provided many benefits to society, including flood control, protection of public health, agricultural production, road construction and residential development. Much of the District of Columbia was once wetland, including the site of the Environmental Protection Agency.

Only recently has it been recognized that wetlands provide valuable benefit in their natural state for such things as flood control, some groundwater recharge, wildlife habitat, fish spawning grounds and many other functions. With that recognition has come a slow shift in public attitudes toward wetlands protection.

However, this changing public attitude that views wetlands as a "public" resource to be protected, does not always mesh with the fact that most of these resources are on private lands. While many of the benefits of wetlands protection accrue to someone other than the landowner, the cost and the burden of regulatory compliance falls to the landowner! From an agricultural perspective, one of the major shortcomings of current wetland protection efforts has been a failure to recognize and respect private property rights.

The preservation and/or creation of wetlands on private property often denies agricultural producers the opportunity to make economically viable use of some of his property. Wetlands preservation can prevent a producer from expanding profitable crop production or making needed improvements that would benefit other sectors of his operation. This restriction might very well rise to the level of a Fifth Amendment "taking" requiring just compensation, as recently construed by the Supreme Court.

Executive Order No. 12630 requires all executive agencies and departments--including EPA and the Corps of Engineers--to assess the impact of proposed actions and policies on the "takings" issue. Such consideration is certainly relevant to the wetlands issue. We urge the Committee to explore whether the relevant agencies have complied with the Executive Order and have performed the requisite takings analysis.

Information Needs:

As this Committee prepares to examine the issue of wetlands protection, we would urge that you look closely at the need for updated information and data on the rate of wetlands loss and the source of those alterations. There is a great deal of old data that is being referenced and used in a way that could shift the focus from solving the real problem, or result in unnecessary regulation of farmers and ranchers.

For example, an often used figure of wetlands alteration is 400,000 to 500,000 acres per year, the source of which is a 1983 Fish and Wildlife Service report. Yet it is our understanding that the data used in that report was collected in the 1950s and 1960s. Clearly, the information is outdated and should be considered suspect for the purposes of making policy decisions in 1990. In contrast to the 1983 report, a 1984 study by the Office of Technology Assessment (OTA) estimated the annual alteration rate to be 275,000 acres. These are very significant discrepancies, underscoring the need for current and reliable data.

It should also be noted that while agriculture has frequently been mentioned as a source of much of the annual wetlands alteration, neither of the reports mentioned above considers the effects of the "swampbuster" provisions of the 1985 Farm Bill. This provision, which makes anyone who converts wetlands to agricultural production ineligible for farm program benefits, is one of the most significant pieces of wetlands legislation ever. Yet our current information base, upon which many assumptions and policy decisions are being made, does not take into account the effects of this provision and the contribution from agriculture in stemming wetlands alteration.

We are aware that EPA conducted intensive reviews during 1989, of the effect that swampbuster regulations have had in seven counties. EPA's preliminary results show that in 6 out of 7 counties, wetland conversion has either stopped all together or has been greatly reduced. EPA looked at aerial photos and other information in the local ASCS and SCS offices for the period 5 years before swampbuster was passed and compared it to information from the last 5 years. The rate of conversion in terms of percent loss per year is shown below:

	Before Swampbuster	After Swampbuster
	— % loss wetlands/year —	
OH	1.6	0.0
CA	1.3	0.0
NC	1.1	0.6
LA	2.7	0.0
MS	8.3	0.0
ND	4.5	0.0
MN	0.3	3.0

Once again, it points out the need for current and reliable information.

Existing Regulatory Programs:

Let me briefly comment on some of the strengths and weaknesses of current wetlands policy from the perspective of farmers and ranchers.

Without a doubt, the most immediate concern that agriculture has with the current regulatory program is the recently adopted wetlands delineation manual. This new effort at defining wetlands has resulted in significant amounts of new land being classified as wetlands. Often land that has been actively farmed for generations will now be classified as wetlands, and subject to regulation under the 404 program. In part, this is because the delineation assumes that if an area would "normally" support hydrophytic vegetation and contains the basic wetlands hydrology and hydric soils, then it is and always will be a wetland. We strongly object to such assumptions.

The net effect of this change are economic and land use restrictions, permit requirements and costly mitigation to farmers whose only principle asset is often the land with its attendant market value. The Soil Conservation Service estimates that approximately 60 million acres now under cultivation will fall into that category.

What makes this particularly outrageous in the eyes of many farmers is that this regulatory slight of hand was performed without any economic assessment, public review and comment or compensation to the landowner. We would urge that the manual be published for comment and an economic impact study be completed. In addition, agricultural land that has been converted should be excluded from wetlands designation.

Agriculture is not the only entity adversely affected by the delineation manual. State and local governments have seen construction and road projects halted and costs escalate as the new definitions have hit home. This underscores a clear need to inject some reason and balance into the debate over wetland definition, delineation and protection. In short, current wetlands designation often reaches too far, is too expansive and indiscriminate. It treats all designated wetlands and alterations alike. The result is both over regulation and underprotection and a severely diminished credibility among landowners.

The second area of concern to agriculture is the recently adopted mitigation policy. While it is assumed that "normal farming and ranching" activities are excluded from permit and mitigation requirements, often it is not the case. Many district and/or regional EPA and Corps officials have varying and inconsistent interpretation of what constitutes a "normal" activity. In addition, some vital and accepted agricultural practices are not exempt. These include all aquaculture practices, construction of rice levees and flood control measures. In such instances, permits are required and will now be conditioned on mitigation.

It is our hope that minor alterations as often occur in agriculture could be exempt from mitigation requirements. In addition, some consideration of economic means should be required. In many instances, stringent mitigation requirements would economically prohibit alterations necessary to sustain a farming operation. Often times these alterations are relatively insignificant to the overall resource.

Many of the conflicts over wetlands protection can be traced to the issue of private property rights. Current regulatory programs such as Section 404 of the Clean Water Act are viewed as all stick and no carrot. They invite conflict over the question of private property rights and the right of an individual to secure the fullest and best use of his land. While some conflicts arise over plans to develop a parcel, more often the dispute is over normal farming activities that do not affect the wetland significantly. Too often, the dispute degenerates into a personal test of wills between the landowner and the regulator and an uneven match of time and financial resources.

Another timeless problem is the need to have permit applications acted upon in a timely manner. For example, applications to perform streambank work that either protects farm and ranch land from flooding or streambanks from eroding have taken months for approval. The farmer is presented with a choice of doing nothing to protect his crop and land, or proceeding without a permit and risking fines and penalties.

Aside from 404 program, the 1990 Farm Bill offers some promising opportunity for wetland protection efforts and reforms.

We support the recent change in criteria for land enrollment in the Conservation Reserve Program (CRP). Nearly 500,000 acres of wetlands have been enrolled in the CRP and we continue to support such efforts. In addition, we favor enrollment of filter strips around wetlands in the CRP.

Looking at "swampbuster," Farm Bureau supports modifying the "drop dead" provisions and bringing penalties in line with the violations so that farmers will not lose all farm program benefits for minor infractions. We also favor clarifying the law's intent to exclude so called "nuisance" spots in the middle of a field that are wet for a short period of time in the spring.

Future Wetland Protection

Before concluding, we want to comment briefly on the National Wetlands Policy Forum to which Farm Bureau was a participant in the discussions. Many of the recommendations are now surfacing in various legislative and regulatory proposals. While we cannot agree with all of the recommendations in the report, there are several that we can support. For example, we fully support the recommendation calling for a consistent and realistic definition of wetlands as well as efforts to reduce delays in the permit process. The Forum report also cautioned against modifying or weakening the existing permit exemptions for normal farming, silviculture and ranching operations. On that point, Farm Bureau believes that continuation of the existing 404 exemptions for agriculture should be one of the conditions that states must meet before responsibility for enforcing the 404 program can be transferred to the states.

The Forum also suggested that compatible economic uses of wetlands be encouraged rather than impeded. Such uses include timber harvesting and the production of native wetland crops. Many of these types of agricultural activities can be conducted without significant loss of wetlands functions. For example, cranberry production is responsible for maintaining, managing and expanding vast amounts of wetland and upland habitat, about five acres for every acre of productive bog. We fully concur that these types of agriculture should be encouraged and that regulatory programs that restrict and impede these compatible uses be revised.

We are particularly encouraged that one of the major themes of the report was increasing the use of incentives, education and information to private landowners. The Forum realized that regulatory programs alone would not halt wetlands alteration. Instead, it emphasized increased economic incentives to landowners such as wetlands reserves, easements and cost sharing for restoration. Mixing a few carrots with the regulatory stick makes good sense, and should promote cooperation rather than confrontation. In addition, increased information and education to wetlands owners on the significance of wetlands will promote public awareness and understanding.

In closing, we want to underscore the need to recognize that private property rights are a central issue in wetlands protection and the source of much of the conflict. We must reconcile the view held by some that wetlands are "public" resources with the fact that they are most often private property. Compensation, economic incentives, compatible uses, education and information are all tools that should be more fully utilized.

We appreciate the opportunity to be here and look forward to any questions you may have.

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TESTIMONY PRESENTED TO

THE PUBLIC WORKS & TRANSPORTATION COMMITTEE

SUBCOMMITTEE ON WATER RESOURCES

by

RHONDA McATEE

FEBRUARY 28, 1990

SUBJECT MATTER: WETLANDS

I am here on behalf of the Pennsylvania Landowners Association representing over 1,400 members with land acreage totalling nearly 700,000 acres. We represent a range of individuals including those owning small parcels of ¼ acre lots to those owning several hundred acres. The intent of this organization is to monitor legislation and regulations which have a direct impact upon the rights of private landowners, and to strive toward amending those legislative efforts and regulations which impair the rights of private ownership.

This organization has numerous concerns regarding the Section 404 program of the Clean Water Act and wetland regulations. However, I will attempt to focus on a few key points. I would first like to state that this organization is absolutely in favor of protecting our nation's naturally occuring, environmentally sensitive wetland areas. However, we feel this goal must be accomplished with the rights of private ownership being considered in the balance.

To begin, I would like to suggest that the legislature become more aware of what constitutes a wetland. Wetlands go far beyond swamps and marshes and areas with water. A document published by the four federal agencies involved with wetland delineation adopted January 10, 1989, dictates criteria for wetland identification. The manual describes elaborate, technical criteria which the legislature should be made aware of. Perfectly dry land is being classified as wetland. Many property owners and prospective buyers have no idea that these types of property meet wetland classifications.

Another area that I would like to touch upon is that of zoning. I believe there is a dire need to clarify the difference between zoning and wetland regulations. We are all aware that zoning ordinances are measures to insure that property uses are not subject to individual whims with disregard to the consequences of neighboring properties. If a prudent person is interested in purchasing land, housing, etc., an inquiry into the local zoning laws and other governmental requirements discloses what can and cannot be done with that property. Once a person is aware of such limitations as utility easements and rights-of-way, they are then able to make an intelligent decision of whether or not to purchase the property; and realizing for example, if it is raw land for residential use that he is required to maintain an open set back of 50 feet from a certain roadway or other point. The important message is: The buyer knew what he was buying and what was expected of him!

Now, if ten years later the zoning authorities decide that good land use requires either a wider road (beyond the present right-of-way) or that the set-back should be extended requiring five feet of a front porch to be removed, would the owner be entitled to compensation? - undoubtedly - the right-of-way addition would have to be purchased through condemnation. The same method would be necessary if the government decided that more open space or parks were needed in the same area. Those people who argue against any compensation would have you believe that the property owner should say...certainly Mr. Government - take my property for the use of all - and please - you don't owe me a cent- after all, I have a responsibility to carry out.

While it is within the law to restrict and to regulate property, it has never been accepted to allow restriction to the extent that virtually all economic use of the property is taken from the owner without providing "just compensation" as prescribed by the United States Constitution. Those who oppose the compensation aspect constantly offer the blanket generalization that the courts do not allow such in wetland cases. Absolutely not true. Takings of private property have been established in such cases as Whitney Benefits, Inc. & Peter Kiewit v. United States, a case where the court awarded $60 million dollars plus interest - a total award of $120 million - for economic loss. The court found that the law and regulations resulted in a "taking" under the Fifth Amendment where the owners of coal properties were prohibited from mining their coal. The presiding judge was quoted as saying:

> "That government can scarcely be deemed to be free, where the rights of property are left solely dependent upon the will of a legislative body, without any restraint. The fundamental maxims of a free government seem to require, that the rights of personal liberty and private property should be held sacred."

In another case, known as First Evangelical Lutheran Church of Glendale v. County of Los Angeles, the court found that the mere existance of a floodplain ordinance imposed a "taking" and the plaintiffs were entitled to just compensation. The court also noted that under the just compensation clause the basic understanding of the amendment makes clear that it is designed not to limit the government interference with property per se, but rather to secure compensation in the event of otherwise proper interference amounting to a taking. The court went on to quote:

> "It is axiomatic that the Fifth Amendment's just compensation provision is designed to bar Government from forcing some people alone to bear public burdens which, in all fairness and justice, should be borne by the public as a whole."

The state of South Carolina has also recognized when regulations create takings of private property. South Carolina's Beachfront Management Act of 1988 provides for beachfront protection and related coastal tidelands and wetlands. However, the Act also requires compensation to property owners who have been prohibited from building on or utilizing their properties which have been determined important to the public.

Many landowners have lost all use of their properties with the imposition of wetland regulations. Many have spent their life savings and years of paying mortgage payments and taxes, only to find it has all been lost through no fault of their own. As one devasted property owner wrote me:

> "I'm told buyer beware. How do you beware of something no one has given you any information about? It's not in the deed, the banks don't require a wetlands survey, the townships claim they were not aware of the law, and the real estate agencies claim ignorance. So how is an ordinary person supposed to know?"

Other landowners have attempted to farm their properties only to find themselves facing astronomical fines for cleaning ditches and installing field tile. Others have been denied access to their timber, often needed as supplemental income in their retired years.

The Pennsylvania Landowners Association supports legislation which would justly compensate landowners who have been denied a permit to utilize their land because of a wetland determination. Inclusion of fair compensatory provisions in wetland legislative considerations is not only vital to establishing a balance of private and societal needs and interests, but also serves to recognize the essential constitutional requirement that "...nor shall private property be taken for public use without just compensation..."

Thank you for the opportunity to comment here today, and for considering the concerns of this organization.

FERCOM AQUACULTURE CORPORATION: Nancy McGowan

Plaintiff, FERCOM Aqualculture Corporation ("FERCOM"), is a Missouri corporation in good standing with its principal place of business in Randolph County, Missouri. FERCOM is the owner of certain real property located near the East Fork of the Little Chariton River in Randolph County, Missouri. FERCOM is engaged in the business of raising and selling certain aquaculture livestock products including catfish, freshwater lobster, and striped bass. Pursuant to its aquaculture business, FERCOM has constructed and/or uses certain ponds (hereinafter referred to as "catfish ponds") in Randolph County, Missouri. Nancy McGowan is Project Engineer for FERCOM.

FERCOM is an environmentally conscious and ecologically concerned company which has complied, and fully intends to comply in the future, with all applicable state and federal laws. FERCOM has constructed and is in the process of constructing certain aquaculture ponds in Randolph County. The Corps/EPA has long been aware, at least generally, of the existence of and the construction of these aquaculture ponds. The aquaculture ponds have increased, and will increase in the future, the area of water in Randolph County and have increased the habitat for diverse wildlife, including numerous species of birds, deer, raccoons, and other life forms, both aquatic and non-aquatic. The aquaculture ponds themselves are and will be used for raising catfish, special Marron and Redclaw lobster from Australia, native crawfish from southern Missouri, hybrid striped bass, trout, and different types of carp and other aquaculture species.

A number of American Bald Eagles have taken up residence in the area near FERCOM's ponds, and, on almost any clear day, can be spotted circling about over the ponds.

FERCOM's hatchery has a capacity of 50 million fry per year and in the last year FERCOM has spent over $10 million in connection with developing its plant facilities and inventory. FERCOM has entered into, and plans to enter into the future, joint venture relationships with colleges and universities with respect to aquaculture research and development. FERCOM has been instrumental in the development of the aquaculture industry in Randolph County, Missouri. The aquaculture industry in Randolph County employs numerous persons and, since 1988, has boosted the local and state-wide economy.

FERCOM is currently involved in litigation with the United States government as a result of a contention by the Corps of Engineers that, in essence, building catfish ponds on dry, solid-ground farmland constitutes the "discharge of a pollutant" into the "waters of the United States." Ironically, the United States Government has apparently taken the position that changing a dry area (farmland) into a wet area (catfish ponds) somehow eliminates "wetlands."

Some background history to this lawsuit is useful in understanding the issues it presents, and the complexity of problems landowners in the Randolph County area have experienced with the Corps/EPA's administration of the so-called §404 program.

BACKGROUND

In 1986 and before, FERCOM's predecessors-in-title acquired rural real property ("the property," or the "FERCOM property"), located on both sides of the East Fork of the Little Chariton River (hereinafter referred to as the "East Fork") in Randolph County. (Exhibit 1 attached hereto).

In 1979-1980, the channel of the East Fork (including the area along the present FERCOM property) was straightened by landowners (mainly farmers) along the creek. The landowners utilized a channelization plan prepared by the Army Corps, and the Army Corps and EPA personnel were present during various stages of the construction work and/or were aware of the work. Moreover, the District Engineer for the Kansas City District of the Army Corps sent letters to some of the landowners involved, informing the farmers that channelization did not violate §404 of the Clean Water Act. The letters claimed, however, that placing fill (for equipment crossings) into the old river channel required a §404 permit.

Five years later, on December 14, 1984, the Army Corps and the EPA sued eleven (11) of the farmers/landowners for purportedly violating the Clean Water Act and sought over a hundred million dollars in civil penalties from the farmers/landowners. United States v. Richard Cochran, et al., Cause No. N84-0153-C, Northern Division of the Eastern District of Missouri, (the "Cochran suit"). Also in December, 1984, the EPA issued a press release making it clear that the farmers/landowners were being sued for channelizing the East Fork (as opposed to building farm equipment crossings).

As of 1986, the Army Corps and the government were intimately acquainted with the geological, hydrological, and physical characteristics of the East Fork, including what is now the FERCOM property, since this area was the focus of intense government scrutiny before, during, and after the Cochran suit. Upon information and belief, between 1979 and March, 1989, the Army Corps and other agencies, including the EPA inspected the area of the East Fork channelization in Randolph County on well over 50 occasions. Additionally, in connection with the Cochran suit, the Army Corps, the EPA, and the Justice Department conducted extensive inspections of the East Fork channelization area and surrounding bottom lands in 1985 and 1986. Moreover, the Army Corps' personnel travelled through and were present on the previously-described FERCOM property for at least one continuous week during the Summer of 1987.

The Cochran suit was settled and on June 16, 1986, a Consent Decree was entered. A major provision of this Consent Decree was the establishment of a four-year (until March 17, 1990) "greenbelt" area ("buffer strip") on forty feet of each side of the East Fork of the Little Chariton River (but not on the old channel, except for two locations). Pursuant to the "greenbelt" provision, Mr. Cochran and the other landowners, as well as all other grantees or transferees cf their properties, agreed to not cultivate or interefere with the succession of natural plants and the zone of vegetation in the "greenbelt" until March 17, 1990. However, the Consent Decree provided:

> After March 17, 1990, the greenbelt areas may be cultivated with respect to areas which are not currently being cultivated (i.e., the forested areas). The defendants will not clear any of the trees or otherwise substantially alter the current environment during the four-year period ending March 17, 1990.

Thus, pursuant to the Consent Decree: (1) property _outside_ the greenbelt area could be cleared and cultivated _at any time_ without a §404 permit; and (2) property _inside_ the greenbelt could be cleared and cultivated without a §404 permit _after March 17, 1990_. This Consent Decree was signed by an Assistant United States Attorney for the Eastern District of Missouri, and an attorney for the United States Department of Justice. Prior to, throughout, and subsequent to the _Cochran_ litigation, the government represented that it had no jurisdiction over areas outside of the old and new channels (i.e., that _except for_ areas within the banks and below the ordinary high water mark of the East Fork, the properties were _not_ subject to the Clean Water Act).

Since the 1979-1980 channelization of the East Fork, a significant amount of natural filling (silt, accretion, _etc_.) has occurred in most of the old meanders of the creek. In almost all cases, the water generally flows only in the new channel and not in the former meanders, and many of those former meanders are dry and filled in. These meanders do not support aquatic life, and/or they do not contain saturated soils.

In 1986, the area that is now the FERCOM property consisted of both hill property and solid ground bottom-land property, almost all of which was and had been placed into agricultural crop production. As of 1987, at least six catfish ponds (the "northeast ponds") had already been constructed on the northeast side of the East Fork. (See Exhibit 1). The northeast ponds were constructed on dry, solid-ground "bottom land." The northeast ponds were used by FERCOM in connection with raising catfish. The existence of and the location of the northeast ponds were known to the the Army Corps in 1987 or early 1988.

One of FERCOM's predecessors-in-title, Mr. Floyd Riley, desired to build additional catfish ponds on the east side of the East Fork, just downstream (south) of the northeast ponds. (These ponds, never constructed, are hereinafter referred to as the "southeast ponds.") In order to construct the southeast ponds as intended, it would be necessary to build the banks of the ponds in an old meander. (See Exhibit 1). The Army Corps stated that it considered this meander to be "wetlands," and that a permit under §404 of the Clean Water Act, 33 U.S.C. §1344, would be required to place fill in the meander in connection with the building of the southeast ponds. In

February, 1988, Mr. Riley applied to the Army Corps for a §404 permit.

The proposed southeast ponds would have created approximately 44 acres of waterbodies with many accompanying wildlife/aquatic benefits. According to the Army Corps, the old meander consisted of approximately 9.7 acres. Essentially, the old meander was (at best) a low-lying ditch containing little, if any, functional environmental value. Nevertheless, the proposed southeast pond project met with opposition from the Army Corps and other federal agencies, including the EPA. FERCOM's predecessor-in-title proposed a number of reasonable "mitigation" alternatives -- all of which were rejected by the government. The Army Corps proposed that, instead of filling the old meander, the ponds be constructed within and/or around -- but not through -- an area circumscribed by the meander. The Army Corps represented orally and in writing that by constructing the ponds without placing fill into the meander (i.e., placing fill on the bottom land ground adjacent to the old meander), no §404 permit would be required since the fill would be placed in an upland area (over which the Army Corps had no jurisdiction). Because the Army Corps' proposal would have provided only a portion of the intended pond acreage, the Army Corps' proposal (that the meander circumscribe the southeast ponds) was unacceptable.

The Army Corps also stated that it was concerned that the §404 application had been pending for an extended length of time with no resolution. In August, 1988, after Mr. Riley had for six months attempted unsuccessfully to obtain a §404 permit, the Army Corps [illegible] that FERCOM's predecessor-in-title withdraw [illegible] §404 application.

Accordingly, on or about August 31, 1988, the §404 permit application for the proposed southeast ponds was withdrawn. The southeast ponds were never developed or constructed.

In late 1988 and in early 1989, FERCOM's predecessor-in-title constructed certain catfish ponds on the northern portion of the property and on the west side of the East Fork. (Exhibit 1). In early 1989, FERCOM acquired property on both sides [illegible] the East Fork for the purpose of using the land in connection with its catfish and aquaculture production. FERCOM constructed additional catfish ponds on the west side of the East Fork. The southeast ponds have never been constructed.

The aforementioned catfish ponds were constructed in areas of dry, solid-ground, located above the ordinary high water mark of the East Fork. The East Fork is a small creek and is not a "navigable" or "open" body of water. The property owned by FERCOM is located over 30 miles from the Missouri River, which is the nearest "navigable" or "open" body of water.

On April 28, 1989, the Army Corps conducted an "inspection" of a portion of the FERCOM property. The "inspection" purportedly resulted from a "complaint" by a tenant of an upstream landowner; the tenant had voiced concern that the catfish ponds might cause his fields to flood.

On August 2, 1989, the Army Corps sent a letter to one of FERCOM's predecessors-in-title, Mr. Floyd E. Riley, stating that the April 28, 1989 inspection had found an "unauthorized discharge of fill material in wetlands adjacent to and in a portion of an unnamed tributary of the old channel of the East Fork during the construction of catfish ponds." The Army Corps further stated that the "results" of the "inspection" conducted by the Army Corps in April, 1989 revealed that "fill material had been placed in wetlands adjacent to the river and in a portion of the old channel during catfish pond levee construction," and that the Army Corps had "regulatory jurisdiction over all waters of the United States pursuant to the provisions of §404 of the Clean Water Act." The Army Corps then "issued" a "cease and desist" order directing Mr. Riley "and all others involved [in connection with the catfish ponds]" to refrain from doing any "further unauthorized work in [the Army Corps'] jurisdiction without proper . . . Army . . . authorization." (Emphasis added).

The Army Corps' letter then stated that the Army Corps would make a "determination" which might include, *inter alia*, "requiring immediate remedial work," allowing for an application "for an after-the-fact Department of the Army permit for authorization of the work, by referral to the Environmental Protection Agency for administrative penalty, or by our pursuit of legal action."

Thus, the United States Government, through the Army Corps, claimed jurisdiction over the property of FERCOM, asserting that the property developed by FERCOM is a "navigable water" within the meaning of the Clean Water Act and certain regulations promulgated thereto. Essentially, despite all its prior representations and actions to the contrary, the government contends that the dry, solid ground (mainly farmed cropland) where the catfish ponds are now located was previously a "wetland" and subject to the Army Corps' (and EPA's) regulatory jurisdiction.

Consequently, FERCOM instituted a lawsuit seeking a declaratory judgment that its property is not subject to the Corps/EPA's §404 regulatory jurisdiction. This property consisted of dry, solid-ground bottom land. It is now far more wet than it ever could have been before -- the series of lakes has dramatically increased the surface area of water in Randolph County. Certainly, current residents such as the American Bald Eagles were never attracted to the area of FERCOM's property when the property consisted primarily of corn and soybean fields.

FERCOM has sought declaratory judgment that there is no §404 jurisdiction over the property because it would otherwise suffer irreparable harm in that: FERCOM will be forced to choose between maintaining or repairing the banks of its ponds and "violating" the government's "cease and desist" order; that if FERCOM does undertake maintenance and repair work, the government will accuse FERCOM of being a "flagrant and multiple violator"; FERCOM's business relations will be harmed, if not destroyed, by the "impending charges" (including "restoration," i.e., removal of the catfish ponds) explicitly and implicitly threatened in the government's August 2, 1989 letter, in that FERCOM's business reputation and its strength and financial security will be diminished in the eyes of FERCOM's suppliers and customers (direct and indirect); and that FERCOM's credit relationship with its lenders will likewise be impaired. Furthermore, the foregoing harm to FERCOM will harm the catfish industry in Randolph County and in Missouri, which will in turn harm the state and local economy. Moreover, (despite the fact that the Army Corps' and EPA's expanded and amended definition of wetlands was rulemaking and did not comply with the public notice and comment provisions of the Administrative Procedures Act), FERCOM will be forced to acquiesce in, or litigate in agency proceedings, questions whether the Army Corps has Clean Water Act jurisdiction over FERCOM's property; whether a §404 permit is required, whether EPA administrative actions will be taken against it, including the issuance of a purported civil penalty; and although the government's position in those regards is wholly without merit (and contrary to the government's prior representations), FERCOM will be forced to incur burdensome costs while litigating the same before these agencies, as well as sustain substantial business damages and business interruption by virtue of said litigation and/or agency proceedings.

The government has responded by attempting to avoid the merits of FERCOM's suit by filing a Motion to Dismiss. The government claims that while on the one hand, FERCOM is a "violator" of the Clean Water Act, that FERCOM has no remedy available to it in Court, but must sit and wait for the government to sue it.

As stated above, FERCOM strongly believes that the government's position that FERCOM's property contains "wetlands" or is otherwise subject to the Clean Water Act arises out of recent innovations by the Corps/EPA in an attempt to impermissibly expand the scope of their "wetlands jurisdiction" to areas which are in no way aquatic. A political solution to the agencies' overstepping their bounds would be highly preferable to the time-consuming and extremely expensive burden of litigating the matter before the federal courts.

FERCOM believes that true aquatic areas are a very significant part of our natural resources and should be protected; Congress should not, however, tolerate the Corps/EPA's attempt to use an anti-water pollution statute -- the Clean Water Act -- as a guise for pulling off an agency "land-grab."

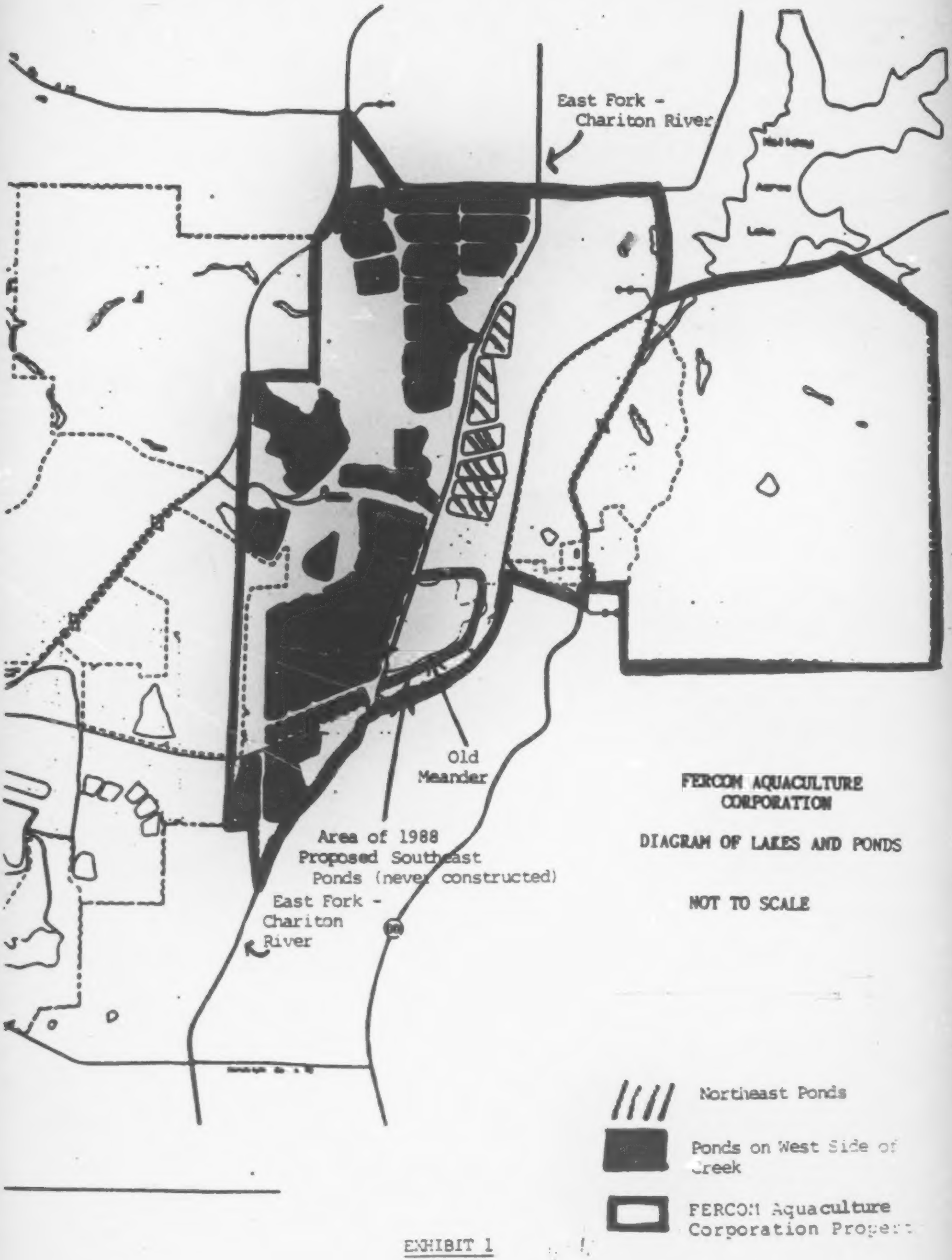
East Fork -
Chariton River
Old
Meander
Area of 1988
Proposed Southeast
Ponds (never constructed)
East Fork -
Chariton
River
FERCOM AQUACULTURE
CORPORATION
DIAGRAM OF LAKES AND PONDS
NOT TO SCALE
//// Northeast Ponds
Ponds on West Side of
Creek
FERCOM Aquaculture
Corporation Propert

EXHIBIT 1

STATEMENT OF RICKY LEE MCGOWN

In the fall of 1987 I had been working on my property when I was approached by Dave Mairs of the Army Corp. of Engineers and he told me that I had to put in for a 404 permit and if I would have done my work just a couple of weeks sooner I wouldn't have had to, but they had just expanded their jurisdiction. Trying to do what was right, I put in for the permit. When this was done, my family and I were humilated, lied to and treated awful by practically every government agency which had any dealings with the 404 process. We tried over and over to deal with these agencys and at the same time they were telling politicians "I was a renegade with no respect for the law and I had to be dealt with and put in my place".

I repeadely told these agencys I didn't have the money to fight with them, because my daughter had been sick for 4 years, so lets come to

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an agreement. My answer from the Corp. was "If you don't give it to us, you'll find out how expensive it will be". We were also told that we had to give them part of our farm, because it wasn't costing us enough.

I have came today to give testimony in hopes no other family will go through what we have. It has never been right from day 1 and the government has never came and made it right. I have always been willing to work with reasonable people and still am, but I bought my farm and if the government wants it they should acquire it the good old American way -- buy it! If stealing, blackmail and harassment has become the way of the people, then this country is surley doomed to fail. When the government becomes the enemy of the people it has went to far. I was threatened for 2 years that I would be sued, and forced into litigation with them and how expensive it would be if I didn't give them what they wanted on a conservation easement.

On Aug. 10, 1989 I sued them trying to bring this injustice to a head. Now instead of going to court, they have spent the past 6 months trying to have our case dismissed. I filed the lawsuit as a last resort. I would like to show the people how these agencys go about dealing with law-abiding, tax-paying citizens.

The farm familys of the country cannot give away there assets and still make a living any more than you can give away your job and still feed your family. The COE, F+W, EPA and all other agencys involved with the 404 process should be stopped immediately. "What is a wetland", should be properly addressed, not just anything a government worker wants to steal. Most of all, if the people need a piece of land, then all people need

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to share the burden, and not break one individual to accomplish a goal.

I have always contended, "I never had wetland", and the COE's own hydrologist said so with others present. Other COE personnel told me not to give them anything, another said to "put the blade down and go", but even with all of these statements, I have been harassed, humilated and faced with financial ruin. If this is the American way of doing business, you can have it! I have and always will be a law abidding citizen, but there is times when you have to stand-up for what's right, and this is one of those times.

One statement enjoyed by all Americans has been; "this is the land of the free", it sounds alot better than "the home of the thieves"! Think about it and lets make this wetlands issue one we can all be proud of, not something we'll be

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ashamed of from now on.

Thank you,

Rick McGowan
Rt. 1 Box 69
Marceline, Mo.
64658
816-376-2607

Ricky Lee McGown: Supplemental Statement

Rick McGown is another victim of a series of "test cases" in which the United States Government, through the increasingly expansive regulatory policies of the Army Corps of Engineers ("Corps") and the Environmental Protection Agency ("EPA"), attempts to assert jurisdiction over dry, solid-ground farm fields under the pretext of enforcing an anti-water pollution statute, the Clean Water Act ("CWA"), 33 U.S.C. §§1251-1376. Mr. Rick McGown became entangled in the Corps/EPA's bureaucratic web when, in 1987, he attempted to repair a half-century old levee along a small creek and to relocate/construct the levee in an area landward of its former location. For the next year-and-a-half, Mr. McGown attempted in vain to work informally with the Corps/EPA to resolve issues involving control and jurisdiction over these fields. Finally, having received "cease and desist orders" from the Corps, and (premised upon the same "cease and desist orders") being repeatedly called a "flagrant and multiple violator" of the CWA, Mr. McGown filed his lawsuit seeking judicial determination that the United States has no jurisdiction over his property.

BACKGROUND

A. The McGown Farm Property

Mr. McGown is the owner of approximately 255 acres of farm property in Chariton County, Missouri (hereinafter referred to as "the property" or the "McGown property"). Mr. McGown, until recently, lived on the land with his wife and three children in a small trailer home. The McGown property is located along a small stream, the Mussel Fork Creek, (see Map, Exhibit 1 hereto), and consists of bottomland as well as hilly areas. All or most of the property has been farmed since at least as early as 1880. The property consists of dry, solid ground. It is beyond question that the McGown property is not a swamp, marsh, bog, or "similar area." See 33 C.F.R. §328.3(b) (defining wetlands: "wetlands generally includes swamps, marshes, bogs, and similar areas.") Except for the Mussel Fork Creek itself, all of the McGown property is solid, dry ground located above the ordinary high water mark of the Mussel Fork Creek.

1. The Pre-Existing Levee and Property Condition

When Mr. McGown purchased the property in 1981, there was then in existence an agricultural levee, constructed in about 1932. The half-century old levee is generally located 40 to 50 feet from the west bank of the creek. (Exhibit 1). The levee was established, serviceable, and regularly maintained. To the extent there was any flooding, the levee generally protected the property, although rare but severe floods could damage or overtop the levee which varies from between approximately four and six feet in height. (McGown Affidavit, ¶3, Exhibit 2 hereto).

Also in place on the property were several agricultural rainwater runoff drainage ditches. One such ditch was constructed by the United States Government in the 1950's. The other ditches were in place at least 60 years prior to Mr. McGown's acquisition of the property. All the ditches had been maintained in an open condition. (McGown Affidavit, ¶4).

Thus, as of 1987, the pre-existing levee prevented most floods from entering the property and the drainage ditches carried away the rainwater runoff. Consequently, the property was almost always in a dry condition and was not "inundated" -- nor did it contain "saturated soils." See 33 C.F.R. §328.3(b) (in order to show that the property is a "wetland" the government's proof must include that the area is "inundated or saturated by surface or ground water"). In 1987, Mr. McGown was farming crops on approximately 140 of the 255 acres. In the early Spring of 1987, the Mussel Fork Creek flooded and damaged the existing levee. Within five to seven months thereafter, Mr. McGown began instituting repairs upon the levee. (McGown Affidavit, ¶6). See §401(f)(1)(B), 33 U.S.C. §1344(f)(1)(B) (repair and maintenance of levees do not require a §404 permit).

B. The Corps' "Permitting Process"

1. The Corps "Gets Its Foot in the Door"

Shortly after he commenced these repairs, in December, 1987, the Corps requested that its personnel be permitted to inspect Mr. McGown's property and the work being done. Mr. McGown cooperated and numerous site inspections were subsequently conducted by the government. One such inspection, referred to by the Corps as a "wetlands determination," took place on January 15, 1988. This "wetlands determination" had previously been delayed due to "weather conditions." In fact, as of December 22, 1987, the area was flooded due to heavy rain and the melting of approximately 12 inches of snow.[1] When the Corps returned to the property on January 15, 1988 (only three weeks after the flood) all tests performed by Mr. Meyer indicated "No" for "INUNDATED" and "No" for "SATURATED SOIL." Undeterred by the clear lack of the "inundation or saturation" criteria, the Corps proceeded to conclude that the area was a "wetland," basing this "determination" mainly on the non-growing season flood they had observed in December. See

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[1] It should be noted that this flooding occurred during a non-growing season and, therefore, even according to the government's (highly questionable) "mandatory" wetland delineation procedure, the flooding was irrelevant for purposes of "wetland determination." (Federal Manual for Identifying and Delineating Jurisdictional Wetlands, January, 1989, p. 7, §2.9: "an area has wetland hydrology when saturated . . . usually one week or more during the growing season . . . . [or] if inundated . . . if ponded or frequently flooded with surface water for one week or more during the growing season (Note: An area saturated for a week during the growing season, especially early in the growing season, is not necessarily a wetland . . . .)"). It is also significant that this flooding occurred under abnormal circumstances, i.e., resulting at least in part from the breach in the levee which was then being repaired.

Note 1, supra. The Corps informed Mr. McGown that a "$10 §404 permit" would be required in order to continue the repair and construction work on the levee; that it had jurisdiction over activities such as Mr. McGown's levee work, and that in order to be lawful, Mr. McGown must apply for the §404 permit. (McGown Affidavit, ¶7). The Corps field personnel typed up a permit application for Mr. McGown, met him at a gas station, and obtained his signature. (McGown Affidavit, ¶8). The §404 permit application, as well as a request for §401 water quality certification, was submitted to the Corps on or about January 25, 1988. On February 25, 1989, the Corps issued a Public Notice, see 33 U.S.C. §1344(a), which represented that the entire project, both completed and proposed, would "fill" approximately 6.7 acres of existing "wetlands."[2]

Contrary to these representations, a number of Corps personnel told Mr. McGown that they did not believe that Mr. McGown's levee construction/repair activities constituted a violation of the CWA, nor did they believe that a §404 permit was required in order for him to proceed with completion of the repairs. (See McGown Affidavit, ¶¶9-15). Corps personnel, including the Corps' Hydrologist, told Mr. McGown that they did not believe Mr. McGown's property constituted "wetlands." One Corps' official stated that Mr. McGown "had the best case against the Corps he had ever seen since he had been working for the Corps." (McGown Affidavit, ¶14). The Corps' Ecologist told Plaintiff and the EPA that "McGown can counter each and every [landowner] claim of wrongdoing."[3] (McGown Affidavit, ¶15).

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[2] The Notice stated that:
1. The completed portions of the levee had "filled " 0.7 acres of "wetlands";
2. The proposed levee would "fill" approximately 6.0 acres of "wetlands";
3. "The completed and proposed activities by the applicant would fill approximately 6.7 acres of wetland".

During this time period, Mr McGown attempted to negotiate with the Corps, the EPA, and numerous other government agencies in working out a plan satisfactory to all parties. Despite his efforts, the only thing Mr. McGown received as a result was frustration and a large phone bill. (McGown Affidavit, ¶18-19).

2. The Proposed Permit: The Government's Use of "Special Conditions" to Gain Control

On or about July 11, 1988, the Corps issued a proposed §404 permit containing numerous "special conditions," including:

1. The set aside of an area bounded by the proposed levee alignment and Mussel Fork Creek from points "A" to "B" (see map attached to proposed Permit).
2. The area to be set aside could not be used for agricultural purposes, i.e., there was to be no clearing of trees or farming creekward of the proposed levee.
3. If Mr. McGown desired to harvest trees in the set aside area, he would be required to obtain the

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[3] Additionally, on April 19, 1988, the Missouri Department of Natural Resources issued its finding that neither the completed nor the proposed activities violated Missouri's water quality standards enumerated in 10 CSR 20-7.031.

permission of both the Missouri Department of Conservation and the Kansas City District of the Corps of Engineers and, in any event, would be prohibited from harvesting trees less than 18 inches in diameter.

4. Mr. McGown would be prohibited from clearing any trees landward of the proposed levee using mechanical means.

5. As perhaps the most onerous and unreasonable "special condition", Mr. McGown would be required to record these restrictions as an encumbrance on the title to his property. (See McGown Affidavit, ¶17).

The proposed "special conditions" were extremely onerous and unsatisfactory. If he signed the permit, Mr. McGown would be essentially giving the government approximately one-fourth of his farm. The "special conditions" would require Mr. McGown to, in effect, stipulate that regardless of whether or not wetlands actually existed on his property, he would be unable to perform any work without risk of the Corps threatening to or bringing an action against him for violating the permit conditions. The enforcement provision of the Clean Water Act (33 U.S.C. §1319) allows the Corps to assess civil penalties against any person who violates "any permit condition or limitation in a permit issued under §1344 [§404] . . . ." 33 U.S.C. §1319(g)(1)(B) (emphasis added). Furthermore, §1319 generally provides for civil penalties against persons who violate "any permit condition . . . in a permit issued under §1344 . . . ." 33 U.S.C. §1319(d). Thus, by imposing "special conditions" the Corps would, in effect, gain control over vast areas of land over which it would otherwise have no control.

3. The "Opportunities" for "Dialogue" and Informal Resolution

Mr. McGown retained new legal counsel and, beginning in August, 1988, attempted to communicate with the Corps regarding his grave concerns over the dire implications of these "special conditions." Far from presenting "an opportunity for informal resolution," the Corps' "dialogue" amounted to "take it or leave it." On September 12, 1988, the Corps' Colonel Atkinson sent a letter to Mr. McGown demanding that he remove his levee and "restore the area to preconstruction conditions" -- all because Mr. McGown refused to accept the onerous "special conditions" that the Corps wanted to impose. This remained the Corps' position.

Mr. McGown continued to try to resolve the matter informally. In the Fall of 1988, Mr. McGown, through his counsel, repeatedly requested that a meeting be held with the Corps' officials to clarify the issues pertaining to the dispute, "and so that we could obtain an understanding of the Corps' position regarding jurisdictional issues, particularly with respect to wetlands." Mr. McGown's counsel pointed out that it appeared the Corps was using Mr. McGown as a "test case" and the Corps' actions were particularly suspect in view of the nature of the farm and the fact that areas of the McGown farm which the Corps claimed were "wetlands" had in fact been determined by another agency of the United States Government (the Soil Conservation Service) to not contain hydric soils. Counsel asked the Corps to reconsider their position. On October 25, 1988, Colonel Atkinson responded by claiming that it "appeared . . . any concerns [McGown or his counsel] had regarding the conditions were adequately addressed." Mr. McGown responded, through counsel, again pointing out that the "concerns" over the permit "conditions" had obviously not been "adequately addressed."[4]

Despite the fact that the Corps, the Fish and Wildlife Service ("FWS"), and the EPA had on numerous previous occasions already inspected the McGown property, on December 8, 1988, the EPA's attorney, Mr. Ward, demanded that the Corps be immediately allowed to inspect the McGown property. Continuing to cooperate, Mr. McGown consented to the inspection under certain agreed upon terms and conditions. Nevertheless, the government's conduct during the inspection both exceeded the scope of, and directly violated, the agreement.[5]

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[4] This letter reiterated counsel's previous request that the Corps not contact Mr. McGown and his wife directly, particularly in view of the fact that he was represented by legal counsel: "the Corps' recent attempts to communicate with Mr. and Mrs. McGown have been very upsetting to Mrs. McGown who is now almost to term in her pregnancy."

Furthermore, in an effort to "dispel some of the concerns" of numerous landowners with respect to "the role of the Corps with regard to wetlands," Brigadier General Kelley (Chief of Engineers for the Corps) agreed to Senator Christopher Bond's September, 1988 request that the Corps hold a "public meeting." The meeting was held December 6, 1988 in Brookfield, Missouri, and was an overwhelming disappointment.

On December 14, 1988, after raising these concerns with the Corps, Mr. McGown, through his counsel, once again patiently requested that the Corps meet with him to discuss the jurisdictional issues and hopefully informally resolve the dispute. Feeling that he had generally run into a "stonewall" in his attempts to meet with the Corps to even discuss the jurisdictional question, Mr. McGown also requested and received assistance from Senator Bond in setting up a meeting with the Corps.

The Corps was advised that Mr. McGown wanted to obtain "the documents generated from the inspection" before the meeting, so that both parties could base their discussion on the same information. Despite the fact that the Corps' inspection was completed on December 13, 1988, and its "final report" was dated December 20, 1988, the Corps delayed producing any reports from this inspection until February, 1989, and then waited until March 23, 1989 to respond to inquiries regarding the inspection documents which the Corps had apparently not furnished.

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[5] For example, the December 8 [sic 9] stipulated inspection agreement specifically stated: "[t]he government will not interrogate Mr. McGown considering the subject matter of its inspection or concerning matters relating to §404 unless his counsel is present." Notwithstanding that counsel was not present, almost immediately after their arrival, the Corps' personnel began asking Mr. McGown questions about the levee and persisted in asking a number of other questions relating to the subject matter of the inspection or concerning §404 matters.

On March 10, 1989, the Corps sent yet another "cease and desist" order to Mr. McGown, supposedly premised upon the Corps' December 12-13, 1988 inspection. On May 25, 1989, the long-sought meeting was finally held at the Corps headquarters in Kansas City[6] between Mr. McGown, his counsel, the Corps, and the EPA. Although Mr. McGown had long been requesting that the Corps hold the meeting for the purpose of discussing the basis of their claim of jurisdiction, the Corps insisted that Mr. McGown (rather than the government) come with a "proposal" for resolution. Mr. McGown made three alternative proposals -- all were rejected outright by the government. The Corps' attorney and the EPA's attorney, Mr. Ward, then suggested a fourth proposal, to which, in a final effort to resolve the matter, Mr. McGown submitted. The Corps and EPA stated that they would discuss the proposal with the respective agencies. Almost two months later, on July 14, 1989, the Corps responded by rejecting all of Mr. McGown's proposals as "unreasonable" or "completely unacceptable" -- but, as always, refused to provide any substantive guidance as to what the government would consider to be "reasonable" or "acceptable." Frustrated with having tried unsuccessfully for over a year and a half to resolve with the government the issues concerning his levee and his farmland, on August 10, 1989, Mr. McGown filed his lawsuit seeking judicial relief from the quagmire of agency harassment.

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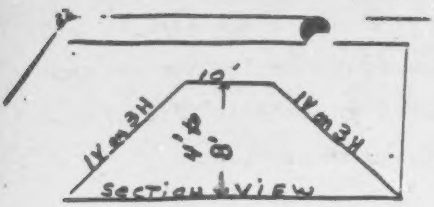
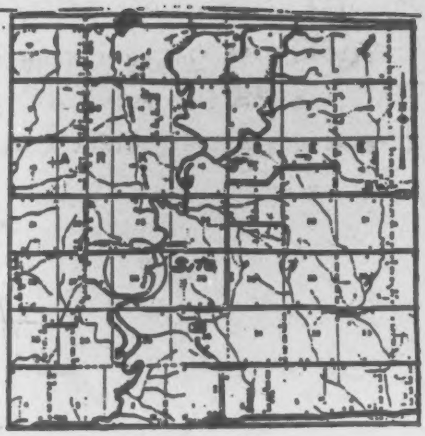
[6] Due to an episode of post-partum hospitalization involving Mrs. McGown, Mr. McGown requested that the meeting be held in Columbia, Missouri (approximately equal distance between Kansas City, St. Louis, and Marceline, Missouri) and therefore equally convenient to all concerned. The Corps refused.

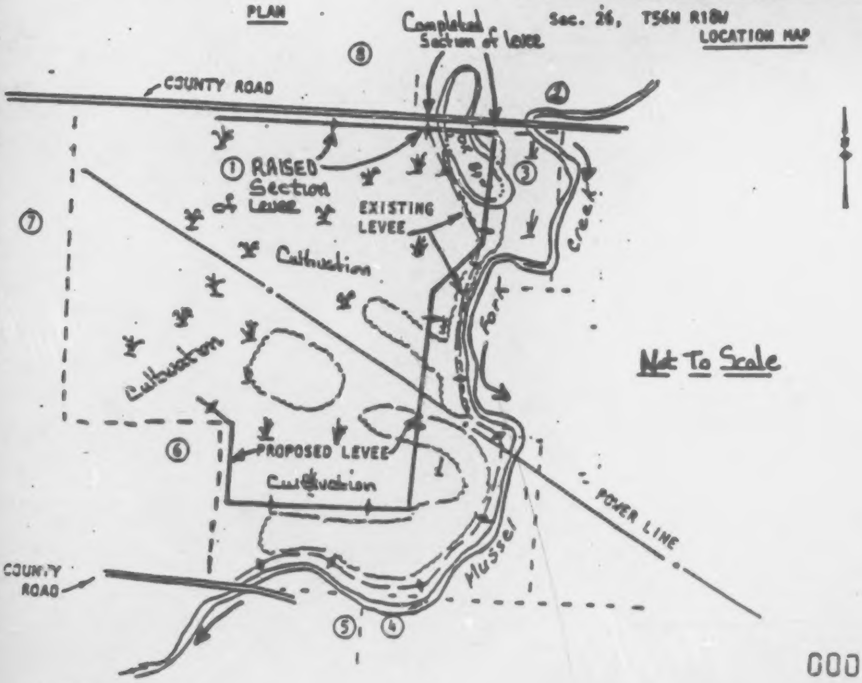

10'
1V on 3H
1V on 3H
4'-8'
Section View

APPLICATION NO. 2881
BY RICK MC GOWN
FOR FILL
MUSSEL FORK CREEK
CHARITON COUNTY, MISSOURI
SHEET 1 of 1



Sec. 26, T56N R18W
LOCATION MAP

PLAN


Completed Section of Levee
⑧
COUNTY ROAD
②
① RAISED Section of Levee
③
EXISTING LEVEE
⑦
Cultivation
Creek
Fork
Cultivation
Not To Scale
⑥
PROPOSED LEVEE
Cultivation
POWER LINE
Mussel
COUNTY ROAD
⑤
④

NOTES:
Trees
Wetland
Proposed LEVEE
Existing Levee

EXHIBIT 1

ADJACENT PROPERTY OWNERS:
1. Rick McGown
2. James G. Callahan
3. Raymond E. Coe
4. [illegible]
5. John Burch
6. Lowell W. Schreiner
7. Wayne E. Crush
8. [illegible]

STATE OF MISSOURI)
)
CITY OF ST. LOUIS)

AFFIDAVIT

COMES NOW Ricky Lee McGown, duly sworn on his oath, and states as follows:

1. I am the owner of approximately 255 acres of land located near the Mussel Fork Creek in Chariton County, Missouri.

2. I am the Plaintiff in a lawsuit in which the United States of America, John H. Atkinson, III, and William K. Reilly are named as Defendants, being Cause No. N89-0103-C pending in the United States District Court for the Eastern District of Missouri, Northern Division.

3. On information and belief, a previous owner of my property constructed a levee sometime prior to 1932. This levee was located perpendicular to the Mussel Fork Creek on the north side of the property and curved parallel to the creek on the east side of the property. I regularly maintained and repaired the levee to keep it in serviceable condition. The levee generally protected the property, although rare or severe floods could damage or overtop the levee which is approximately four to six feet in height.

EXHIBIT 2

4. In 1987, I was farming crops on approximately 140 acres of the property. Several agricultural water runoff ditches were located on the property. On information and belief, one such ditch was constructed by the United States Government in the 1950's; the other ditches had been in place at least 60 years prior to my acquisition of the property. I generally maintained all ditches in an open condition.

5. My land is dry, solid ground and does not contain any swamps, marshes, bogs, or similar areas.

6. In the early Spring of 1987, prior to the planting/growing season, the Mussel Fork Creek flooded and damaged the levee. Approximately five to seven months later, I began making repairs to the levee and relocating it landward of the existing levee.

7. In late 1987 or early 1988, the Corps of Engineers contacted me and informed me that a §404 permit would be required in order to perform the repairs on the levee. The Corps further informed me that it had jurisdiction over my repair activities, and that in order to be lawful, all I needed to do was apply for a §404 permit and pay a ten dollar fee.

8. Subsequently, Mr. David Meyers, a Field Inspector for the Corps, asked me to meet him at a local gas station where he had a §404 permit application which had been typed up by Corps' personnel. He told me to sign the application, and I complied.

9. While at my farm, Mr. David Meyers, told me that if I had commenced the repairs a couple of months earlier, the Corps would not have asserted jurisdiction over my land, and would not have challenged my levee work, but that the Corps had recently decided to expand their jurisdictional authority.

10. In early 1988, while in the basement of the courthouse at Keytesville, Mr. David Meyers also stated to me that, if he were in my position, he would not give the Corps anything but, that if he were forced to, he would give them only an area outside the levee equal to the footprint of the levee, which was approximately 6.7 acres and then only for a period of only three years. I subsequently made this exact offer to the Corps, and they rejected it.

11. On May 12, 1988, I met with a group of Corps and other government officials. While standing by the fuel tank at my farm, I told the government men that my daughter had been very sick for 3 to 4 years [emphysema] and I did not have the money to fight with them. After I told them that, I specifically recall Mr. Joe Hughes, Chief of Permit Processing Section of the Corps, informing me that, if I didn't go along with the Corps' mitigation demands then "you will find out just how expensive it will be [to fight the Corps]."

12. Mr. Jack Nelson, a Hydrologist for the Corps told me, while inspecting my land on March 30, 1988, that he would not call land like mine a wetland.

13. Another Corps official, in approximately May or June of 1988, told me that, if he were in my position, he would "put the blade (of the bulldozer) down and go."

14. This Corps official has also, on several occasions, stated to me that I had the best case against the Corps of Engineers that he had ever seen since he had first started working for the Corps.

15. Dr. John Tatschl, an ecologist for the Corps, stated to me that there were no viable complaints regarding my activities from any of the surrounding landowners.

16. If I had been allowed to proceed with the completion of the levee in its new alignment, as indicated on the Corps of Engineers' §404 permit application (Application No. 2881), an additional 20 to 25 acres of land would have been left between the new levee and Mussel Fork Creek, as opposed to the land area previously existing between the old levee and the Mussel Fork Creek.

17. The "special conditions" attached to the government's proposed §404 permit would have required me to set aside for the government approximately one-fourth of my 225 acre farm and to record the set-aside as an encumbrance on my title. Similar "conservation easements" recorded on "FHA Land" repossessed by the government have severely damaged the property value. Personnel with the government's FHA offices have admitted this to me and complained about such easements.

18. During the period December 1987 through November 1988, I incurred at least several hundred dollars in long distance telephone bills, including approximately 38 calls to the Corps of Engineers, approximately 6 calls to the Environmental Protection Agency, and numerous other calls to the Missouri Department of Natural Resources, the Fish and Wildlife Service, the Missouri Department of Conservation, State Rep. Dale Whiteside, Congressman Tom Coleman, the office of the Governor of the State of Missouri, Senator Christopher Bond's office, Senator John Danforth's office, the Missouri Attorney General's Office, and the office of the President of the United States, all in an unsuccessful effort to negotiate and amicably resolve the matters that are now at issue in this lawsuit.

19. My attempts to work with the Corps and EPA have been the most frustrating experience of my life. This matter has severely affected both me and my family, physically and emotionally.

____
Ricky Lee McGown

SUBSCRIBED AND SWORN to before me this 17th day of November, 1989.

Marian D. Seibel
Notary Public

My Commission Expires:

Allen Moseley

In July, 1979, when Allen Moseley bought his farm near Rothville, Missouri in Chariton County, he thought he was getting it with clean title; that it was his to farm and develop in accordance with normal farming practices, and, indeed, as the United States Government was then encouraging. What Allen Moseley did not know, nor could he have known, was that in less than ten years his government would claim that most of his land, in effect, belonged to the United States. In 1979, Mr. Moseley did not suspect that one day one branch of the United States Government would be telling him that it was okay to clear brush and trees on his property; while at the same time other agencies would sue him and his wife for $25,000.00 per day for every day since July of 1988 (currently about 10 million dollars!).

Allen and Mary Ann Moseley are the owners of approximately 187 acres of farm property in Chariton County, Missouri. Mr. and Mrs. Moseley have been lifelong residents and farmers in Chariton County, Missouri. Mr. Moseley farmed with his father until 1972, when he entered the military. After serving in the United States Marine Corps from 1972 until he was honorably discharged in September, 1974, Mr. Moseley returned to Chariton County and resumed farming. Allen and Mary Ann Moseley were married in 1987, and live in a rented house with their seven year old daughter, Allie, near the subject farm field property.

Most of the Moseley property has long been farmed and/or grazed by livestock. Although portions of the property are located close to a small rivulet, Yellow Creek, the property does not itself contain any rivers, streams, creeks, or lakes. Rather, the Moseley property consists of dry, solid-ground. It is beyond question that the Moseley property is *not* a swamp, marsh, bog. Nor is it a "similar area." *See* 33 C.F.R. §328.3(b) (defining wetlands: "Wetlands generaly include swamps, marshes, bogs, and similar areas.") Like almost all farm fields, the Moseley property had drainage ditches established decades ago. The property is not wet; Mr. Moseley has not dug any new "drainage ditches"; nor has he "drained" or "filled" any of the property so as to "dry it out" -- it simply was not necessary.

The Corps/EPA, however, have made the unsupportable -- if not ludicrous -- assertion that the Moseley property is an "aquatic area" -- despite the fact that the only locations where any sort of "aquatic regime" could be reasonably said to exist on the property are within the temporary "borrow ditches" from which the dirt for the levee was taken in the first place. The remainder of the property is terrestrial. The temporary borrow ditch areas contain some cattails, lily pads, frogs, turtles, *etc*. -- these aquatic/amphibious species are found *nowhere* else on the Moseleys' supposedly "aquatic" property.

In 1979-1980, a great deal of the farm was again cleared, including two old dried-up and sedimented-in oxbows in the middle of the field. Also, Mr. Moseley began building a levee to protect his soybeans from any severe flood from Yellow Creek that might otherwise cost him his crop. (A flood of very short duration can cause erosion damage and damage or destroy soybeans especially if the flood occurs after the growing season but before the harvest.) On September 5, 1980, tragedy struck when Mr. Moseley's trailer burned down; he lost everything and it slowed his plans for awhile. With the 1981 farm crisis, he was economically unable to do any more clearing or work until August of 1984, but due to some major equipment problems, even then he did not get very far. Domestic and personal problems hit him in 1985, and the farm was ultimately foreclosed. In July, 1988, Mr. Moseley was able to buy his farm back. Thinking he had overcome all possible obstacles, he resumed construction of the levee he had earlier started.

In August, 1988, Mr. Moseley came face-to-face with yet another barrier to his farming plans -- his own government. On August 8, 1988, the Army Corps of Engineers' field inspector stopped at the farm and told Mr. Moseley that "a complaint" had been filed about the levee. The Corps said that they could not, however, tell the Moseleys to stop work until a "wetland determination" had been made by the Army Corps. The Army Corps' field inspector was informed that Mr. Moseley would seek legal advice before subjecting any of his land to the so-called "wetland determination." The attorney was to contact the Corps within three days, which he did.

Almost a month and a half later, on September 30, 1988, a Corps/EPA squad of four arrived at the house with a purported "cease and desist order." All of the Army Corps' personnel had documents purporting that they had been made "authorized representatives" of the EPA. The Corps' Chief Regulatory Officer claimed that the EPA could enter Mr. Moseley's land at any time and that these documents gave them access to the farm to inspect the levee and anything else they wanted to see. Against Mr. Moseley's wishes, but under "color of authority" the government personnel entered the farm, inspected the levee and the surrounding areas, and took many pictures. Mr. Moseley informed the Corps that he intended to log any timber within the levee, and then clear the remaining brush. The Corps told Mr. Moseley that if he wanted the levee, then he had 30 days to apply for a permit; otherwise he had 90 days to tear down the levee and "restore," or face litigation.

Several days later, in early October, 1988, the Army Corps' field inspectors, Sanders and Meyer, returned to the property, and made the Corps' so-called "wetland determination." It was the Corps' determination that a little over half of the then-completed levee was not placed in any wetlands. The Army Corps claimed that the remaining and partially completed levee was supposedly in "wetlands"; that the levee had, in effect, "taken" 7.8 acres of wetland; and that there were approximately

8 acres of supposed wetlands where brush had grown up in the two previously cleared, dried-up old oxbows. The Army Corps' field inspectors then typed up a permit application for Mr. Moseley and the permit application was submitted.

It was then that Mr. Moseley's real trouble began. Having got their "foot in the door," with the permit application, the government agencies apparently decided that Mr. Moseley's land belonged to them and not to him. They, in effect, told him that he had "taken" their "wetlands" and that in order to keep his levee, he would have to "mitigate" for the property which he had taken from the government.

In January, 1989, the Army Corps' personnel returned and walked all over the entire farm. They even brought their environmentalist, a Ph.D. The Army Corps' Ph.D. told Mr. Moseley that the 22-23 acres of timber which was next to the creek was "prime timber," and then suggested that Mr. Moseley "offer it" as "mitigation" for the 15.8 acres of wetlands "taken" (by the levee and the old dried-up oxbows). He did.

However, the 22-23 acres was not enough for the agencies. The Army Corps, the EPA, the Fish & Wildlife Service, and the Missouri Department of Conservation demanded more. They said Mr. Moseley could not give them the 22-23 acres of land by Yellow Creek as "mitigation" -- reasoning that since they claimed it was "wetlands" they already had it. (Essentially: "You can't give us what we already have.") The government kept rejecting Mr. Moseley's suggestions and instead demanded more and more "in exchange" for the permit. The government then demanded that Mr. Moseley change his levee alignment to "set-aside" the 18 acres of timber/brush in the southwest corner of the property.

On April 4, 1989, the Army Corps issued a "permit" which contained numerous burdensome "special conditions," many of which had never been previously discussed with Mr. Moseley. Thereafter, dissatisfied with the permit "conditions" as a whole, Mr. Moseley researched state and federal laws concerning levee construction and brush/timber clearing. Additionally, the Army Corps informed Mr. Moseley's attorney that no permit was required to clear his timber. Accordingly, in the summer of 1989, the 18 acres of timber were cleared. Also, work on the levee resumed.

On August 15, 1989, the government sued the Moseleys in federal court, seeking injunctive relief and $25,000.00 a day in civil penalties. After telling Mr. Moseley that he could clear his timber, the Corps/EPA is now claiming he eliminated a "valuable wildlife corridor." The government has since offered to settle the case, provided Mr. Moseley will: pay a civil penalty; essentially cut the farm in half, giving the west half to the government, along with a 40 year "set-aside" restriction on the 22-23 acres next to Yellow Creek; cut holes in the west side of the existing levee; and plant several thousand trees (a tree every 20 feet) on 25 acres of cleared land on the west side (the "government half") of his property.

Yet the government agencies have not offered to pay the Moseleys for any compensation for their property. And, under the government's proposal, with half the farm gone, the Moseleys would almost surely lose the property as they could not make enough to pay the mortgage.

STATEMENT OF DARLENE SHELLEY

STATEMENT OF SIGNAL LANDMARK

Submitted to

THE WATER RESOURCES SUBCOMMITTEE

OF THE HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE

Congressional Oversight Hearing

February 28, 1990

10:00 a.m.

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STATEMENT OF SIGNAL LANDMARK

Submitted to

THE WATER RESOURCES SUBCOMMITTEE
OF THE HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE

Congressional Oversight Hearing
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INTRODUCTION

Signal Landmark is a national real estate development company with particular emphasis in California. We have implemented a large number of complex development projects throughout the country and have gained considerable experience with the Section 404 program. Several of our projects have included successful wetlands restoration components. We have worked cooperatively with federal, state, and local agencies to resolve highly sensitive land use and environmental issues. For example, we are currently involved as a member of a coalition, which includes state and local agencies and an environmental group, to implement a land use plan designed to achieve wetlands restoration of a substantial coastal area in southern California. However, our comments today are not intended to reflect upon any on-going permitting matters, but are based generally on our experiences working with the Section 404 program.

Signal Landmark firmly believes in the goal of no net loss of wetlands values. We are committed to working with federal, state, and local agencies to achieve this objective in implementing environmentally sensitive development projects. However, many aspects of the present regulatory structure actually impede the success of wetlands protection efforts. More specifically, the Section 404(b)(1) guidelines, which are applied by the Corps and EPA in reviewing Section 404 permit applications, work against the no net loss objective and appear to promote an overall decline in wetlands values.

Our testimony today focuses on four major issues that have grown increasingly troublesome in recent years:

- Section 404 jurisdiction has expanded considerably, creating increased conflicts between the federal permitting process and local land use decisions;
- the requirement contained in the practicable alternatives test to avoid any development in wetlands, regardless of the wetlands values or functions affected, encourages a net loss of wetlands;
- mitigation requirements often are established in an arbitrary and inflexible manner without adequate consideration of wetlands values; and
- the Section 404 permitting program is unpredictable and time consuming, resulting in inefficient use of resources and increased costs to both private parties and government agencies.

To begin addressing many of the problems with the current Section 404 program we recommend:

- The federal permitting process should be closely coordinated with local land use decisionmaking;
- The practicable alternatives test should be modified to allow greater flexibility in the permitting process so that permit issuance generally would be allowed if a project, taken as a whole, would result in a net gain of wetlands values and functions;
- Innovative approaches to providing mitigation should be encouraged to promote the goal of no net loss of wetlands and to improve the quality of the Nation's degraded wetlands; and
- The Section 404 program should be modified so that the concerns of all federal agencies are addressed together at the earliest possible time in the permitting process.

I. PRINCIPAL CONCERNS WITH THE SECTION 404 PROGRAM

A. The Expansion of Section 404 Jurisdiction has Created Conflicts Between Federal Permit Decisions and Local Land Use Planning

Federal jurisdiction under Section 404 has expanded considerably in recent years to the point that it now far exceeds the original conception of the Section 404 program. As enacted in 1972 as part of the Federal Water Pollution Control Act, Section 404 was concerned primarily with open water disposal of dredged material. The Corps' role in administering the Section 404 permit program grew out of its historic role in regulating obstructions in navigable waters. The original Corps regulation defined "waters of the United States" for purposes of Section 404 to mean traditional navigable waters.[1]

As a result of judicial interpretation and revisions to the applicable regulations, the current definition of "waters of the United States" used by both the Corps and EPA in implementing Section 404 is extremely broad.[2] The expansion of Section 404 jurisdiction is nowhere more evident than in the case of "wetlands."[3] The federal regulatory agencies recently have developed a new wetlands delineation manual which adopts a methodology for identifying wetlands which significantly increases the scope of wetlands regulation.[4] As a result, the Section 404 program now extends far beyond traditional navigable waters to reach every parcel of land in the country that may have saturated soils for a few days a year or contain even a minority of plant species typically adapted to life in occasionally wet soils.

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[1] See 33 C.F.R. § 209.260 (1972).

[2] 40 C.F.R. § 230.3(s) (1989); 33 C.F.R. § 328.3(a) (1988).

[3] 40 C.F.R. § 230.3(t) (1989); 33 C.F.R. § 328.3(b) (1988).

[4] Interagency Committee for Wetlands Delineation 1989. Federal Manual for Identifying and Delineating Jurisdictional Wetlands. U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and U.S.D.A. Soil Conservation Service, Washington, D.C.

We believe that the extension of Section 404 jurisdiction to areas that are essentially dry land is wholly inappropriate within the confines of the Clean Water Act. However, we will leave the technical and scientific issues associated with wetlands delineation to others with more expertise in that field. The important point for our purposes is that there are very few large land use projects today that are not within the scope of Section 404 jurisdiction. This is the case even where a proposed discharge of dredged or fill material would have virtually no adverse impact on water quality or the aquatic ecosystem. Thus, Section 404 has become a tool of federal land use control rather than a means to control water pollution, as originally intended.

The expansion of Section 404 jurisdiction has placed the federal government in the midst of traditionally local land use planning decisions. Unfortunately, the Section 404 permit process is not integrated with local land use decisionmaking. In fact, as a land use control mechanism the Section 404 program is totally contrary to the principle of comprehensive land use planning. The Section 404 program reviews project proposals on a case-by-case, site-specific basis. In contrast, local land use planning considers environmental opportunities and constraints in a given geographic area comprehensively together with economic and social considerations, and development is planned to resolve conflicting land use objectives in a balanced manner. This tension between the federal and local permitting processes leads to duplication of effort, confusion, and delay. Permit applicants must either go through two separate approval processes and face the likelihood of inconsistent results, or attempt the difficult task of bringing federal and local agencies together as cooperative participants in a joint permit review process.

B. The Lack of Flexibility in the Section 404 Program Impedes Environmentally Sensitive Projects that Would Result in a Net Gain of Wetlands Values

The Section 404 program is characterized by a general lack of flexibility which makes it difficult to obtain approval of environmentally positive projects. This lack of flexibility extends to virtually every aspect of the Section 404 program, particularly the analysis of practicable alternatives and the development of appropriate mitigation requirements. The primary reason for this lack of flexibility is that wetlands values are not viewed as a relevant consideration in the permitting analysis.

1. The Regulations do not Recognize that there are Differences in Wetlands Values

Wetlands have different values and serve different functions depending on their size, location, degree of disturbance, and relationship to the regional ecological system.[5] However, the Section 404(b)(1) guidelines do not recognize that such differences in wetland values exist and may be relevant to permitting decisions. As a result, federal agencies generally view each and every wetland as equally valuable and equally in need of protection at all costs. This simplistic approach prevents flexibility in the Section 404 permitting process which would allow development in wetlands of poor quality in return for restoration of degraded wetlands to create high-quality, productive wetlands.

There is no question that many wetlands are of high ecological value and should be protected from all potential development. Examples of productive, high-quality wetlands may be found in tidal estuaries, at national seashores, and along the banks of many of our nation's important rivers.

While there are many high-quality wetlands, it is clear that a substantial portion of our Nation's wetlands have been significantly altered by human activity and currently exist in a degraded, unproductive condition. Degraded wetlands are particularly common in highly urbanized and industrial areas. Degraded wetlands often are found in isolated locations, cut off from the larger aquatic ecosystem by land use modifications which decrease their biological functioning. In our experience, an important cause of wetlands degradation is hydrological alterations which decrease the flow of surface waters or the frequency of inundation, thereby contributing to a gradual drying out and siltation of the wetlands. Many of these wetlands will continue to degrade further over time if left alone without the benefit of restoration activities.

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[5] The range of functions served by wetlands includes flood storage and conveyance, fish and wildlife habitat, food chain productivity, water pollution control, groundwater recharge and discharge, recreation, and aesthetics. Different wetlands provide these functions in varying degrees depending on the environmental and ecological characteristics of the site.

The values and functions provided by degraded wetlands can be enhanced and restored. However, wetlands restoration is costly and there is little likelihood that funding for such activities will be provided by either federal, state, or local government. The economic return from private development can provide the necessary funds to increase wetlands values through restoration. Thus, if wetlands values were considered in the Section 404 permitting process, restoration of degraded wetlands would be encouraged as compensation for impacts caused by limited development in other low-quality wetlands.

2. The Emphasis on Avoiding Wetlands Impacts Does Not Promote the Goal of No Net Loss

EPA's Section 404(b)(1) guidelines provide that "no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem."[6] This regulatory standard is known as the "practicable alternatives test." Moreover, for activities that do not require access or proximity to special aquatic sites such as wetlands (i.e., activities that are not water-dependent), practicable alternatives "are presumed to be available, unless clearly demonstrated otherwise."[7] The practicable alternatives test and the concept of water-dependency reflect the guiding principle of the Section 404 program, which is to avoid development in wetlands if an alternative upland location is available for a proposed project.

The water-dependency component of the practicable alternatives test may have been a reasonable requirement when the Section 404 program was limited to traditionally navigable waters. Even today, it is appropriate to require a showing of water-dependency if a project is proposed adjacent to a navigable waterway. Given the limited amount of available land in such areas, new development generally should be limited to activities such as port expansion projects or marinas which need to be located in close proximity to water. For these water-dependent projects, there should continue to be no presumption that an alternative location exists which does not require access to water.

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[6] 40 C.F.R. 230.10(a) (1989).

[7] Id. § 230.10(a)(3).

However, the water-dependency test has become irrelevant and largely counterproductive as Section 404 jurisdiction has extended to upland areas which are distant from open water. In these areas, that may simply contain wet soils for a few days every year, the water-dependency test essentially has become an inappropriate and intrusive federal land use control to regulate projects that would not be expected to have any adverse impact on water quality. While Congress certainly has the authority to designate appropriate land uses for particular locations, it is not clear that the Clean Water Act was intended to authorize federal agencies to play such a role.

The practicable alternatives test requires the avoidance of any impacts to wetlands, regardless of value, and discourages favorable consideration of projects with substantial net environmental benefits. Under the regulations, it is irrelevant if a landowner proposes to conduct extensive restoration of degraded wetlands as compensation for impacts caused by the filling of a limited number of low-quality wetlands. If there is an alternative location available for an activity proposed in even a degraded wetlands, the practicable alternatives test requires the avoidance of any impact to those wetlands. In other words, the practicable alternatives test favors retaining the status quo of degraded wetlands over achieving environmental improvements and a net gain in wetlands values through compensatory mitigation. Since many degraded wetlands will continue to degrade further over time, the mandate to avoid any development in wetlands actually promotes a net loss of wetlands values.

3. Mitigation Requirements Often Are Established in an Arbitrary and Inflexible Manner

The Section 404(b)(1) guidelines contain no standards to be used in determining adequate mitigation for potential wetlands impacts. As a result, federal agencies and permit applicants commonly engage in extensive negotiations regarding mitigation on a case-by-case, ad hoc basis. This leads to protracted delay as well as a substantial likelihood of inconsistent obligations being imposed on similarly situated permit applicants. The recent Memorandum of Agreement ("MOA") between the Corps and EPA concerning mitigation,[8] which formally adopts the goal of no net loss, appears to establish a standard of 1:1 replacement of wetlands values. However, it is likely that federal agencies will view this standard as the minimum amount of mitigation permissible and continue to demand that permit applicants provide as much mitigation as possible, regardless of the adverse environmental impacts of a proposed project.

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[8] Memorandum of Agreement between the Environmental Protection Agency and the Department of the Army Concerning the Determination of Mitigation Under the Clean Water Act Section 404(b)(1) Guidelines (effective February 7, 1990) (hereafter "Mitigation MOA").

The new MOA attempts to clarify the concept of mitigation by establishing a strict "sequencing" requirement progressing from avoidance of wetlands impacts whenever possible, to minimization of unavoidable impacts, to compensation for remaining impacts. In addition, the MOA appears to allow some narrow exceptions to the strict sequencing requirement in certain circumstances, such as when a land use plan has been developed in accordance with a Special Area Management Plan or a local coastal planning process. However, the MOA ultimately may create more uncertainty in the area of mitigation than it resolves. Most importantly, it is unclear how the federal agencies will apply the MOA to promote wetlands restoration projects given the inflexibility inherent in the practicable alternatives test and the continued emphasis on avoidance of any wetlands impacts.

There is also a lack of flexibility in approaches to providing mitigation. As an example, the Section 404(b)(1) guidelines create no incentive for landowners to establish wetlands mitigation banks. To create a mitigation bank, a permit applicant sets aside wetlands acres or donates money for the purchase of such areas. To ensure that the mitigation bank does not succumb to later development pressures, open space easements or other land use restrictions are placed on the property. If the original permit applicant does not need all of the "banked" wetlands to serve as mitigation for its own project, it may make portions of the property available to subsequent permit applicants who are required to provide compensatory mitigation for other wetlands projects. Alternatively, the original permit applicant could place an open space easement on the property and conduct wetlands restoration gradually over time to accumulate mitigation credit for future projects. In any event, all of the wetlands in the mitigation bank ultimately are enhanced and restored.

The primary obstacle to the creation of mitigation banks under Section 404 is that many federal agency officials consider all wetlands to be fully protected from development by virtue of the existence of the Section 404 program. Thus, a landowner is not considered to be making a positive contribution to the environment by establishing a mitigation bank. However, creation of a mitigation bank forecloses the possibility of uses inconsistent with wetlands restoration and ensures that the wetlands will remain open space in perpetuity. Moreover, a landowner essentially ensures that no development proposal will be submitted in the future for the mitigation bank property which will require agency resources for review and which ultimately may result in adverse wetlands impacts. The landowner also forgoes the possibility of bringing a takings challenge against the federal government based on a claim that denial of a Section 404 permit to develop the mitigation bank site would constitute a deprivation of reasonable use of its property.

C. The Section 404 Permitting Process is Unpredictable and Unduly Burdensome for Permit Applicants

Regulatory responsibility for the Section 404 program is shared by two federal agencies with different perspectives on the permitting process. The Corps is authorized to issue a Section 404 permit if a proposed discharge would comply with the Section 404(b)(1) guidelines. The Corps also conducts a "public interest review" which considers a wide range of environmental, social, and economic factors.[9] However, Section 404(c) authorizes EPA to prohibit or restrict a proposed discharge solely on environmental grounds even if the Corps has found that permit issuance would comply with the Section 404(b)(1) guidelines.

The failure of these two agencies to coordinate resolution of their concerns and work together throughout the permitting process places applicants in a difficult position. The primary problem is that EPA generally does not get actively involved until late in the Section 404 permitting process, commonly acting as a final reviewer of the applicant's project and the Corps' decision. The likelihood that EPA will impose additional permit conditions or raise objections at the last minute creates uncertainty and delay.

This two-tiered approach to Section 404 permitting is particularly troublesome because a permit applicant typically already has proceeded through the local decisionmaking process and has made substantial commitments to comply with permit conditions and fulfill mitigation requirements addressing the concerns of all other relevant agencies. Unfortunately, the costs associated with the burdensome and uncertain Section 404 program ultimately are passed on to the average homeowner or other purchasers of newly developed property. These increased costs are particularly regrettable given the urgent need in this country for more housing that is affordable to a broad range of potential homeowners.

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[9] 33 C.F.R. § 320.4(a) (1988).

An underlying problem with the Section 404 program is that permitting generally is conducted as an adversarial proceeding. There appears to be a presumption on the part of federal agencies that a landowner is somehow wrong or at fault from the start for proposing a project that may impact a wetlands area. The source of this presumption probably can be traced to the regulatory standards inherent in the practicable alternatives test and other aspects of the Section 404(b)(1) guidelines. Unfortunately, this attitude seems to apply even if a project is environmentally sensitive and will result in a net gain of wetlands values.

II. RECOMMENDATIONS

Fundamental changes to the Section 404 program are necessary if the Nation is to achieve the goal of no net loss of wetlands. Most importantly, the permitting process should be modified to increase flexibility, reduce uncertainty, and integrate federal and local decisionmaking regarding wetlands.

A. The Practicable Alternatives Test Should be Modified to Allow Greater Flexibility in the Permitting Process

The lack of flexibility in application of the practicable alternatives test prevents the achievement of the goal of no net loss of wetlands. Differences in wetlands values should be taken into account in the permitting process so that the avoidance of any wetlands impacts is no longer the guiding principle in all cases. The presumption that practicable alternatives are available should be retained when a project is proposed in an area containing high-quality, productive wetlands. However, the practicable alternatives test should not be rigidly applied when development is proposed in an area containing low-quality. degraded wetlands. In these circumstances, permit issuance should be allowed if a proposed project, taken as a whole, will result in a net gain of wetlands values and functions. Rather than placing the emphasis on the absolute avoidance of wetlands impacts at all costs, the Section 404(b)(1) guidelines should recognize that limited development in areas containing low-quality, degraded wetlands will result in net environmental improvements through wetlands restoration conducted as compensatory mitigation.

The Section 404(b)(1) guidelines should be modified to eliminate the water-dependency component of the practicable alternatives test except at locations immediately adjacent to traditionally navigable waters. The concept of water-dependency is useful in these areas and there should continue to be no presumption that practicable alternatives are available for projects proposed to enhance maritime commerce or water-related recreational opportunities.

However, the issue of water-dependency should not be a consideration for projects proposed at locations that are subject to Section 404 jurisdiction only because they may contain wet soils during some brief portion of the year. It makes no sense to apply a water-dependency test where a project site essentially is dry land and has very little direct connection with the aquatic ecosystem. Although water quality still may be a concern, other local land use considerations, such as zoning and traffic access, typically are of overriding importance for projects proposed at these locations.

The practicable alternatives test also should be modified to acknowledge that wetlands values and functions often can be enhanced by consolidating wetlands and nonwetlands portions of a project site. Strict application of the Section 404(b)(1) guidelines often prevents consideration of the benefits of consolidating scattered or isolated wetlands. If there is a practicable alternative location for any activity that would impact even a small wetlands areas, a permit will be denied even though the total value of the wetlands ecosystem would be improved by allowing development on one portion of the site in return for the creation of a larger restored wetlands area on the remainder of the property. Moreover, permit denial commonly may result in the loss of virtually all economic potential of an upland site containing scattered wetlands.

B. The Regulations Should Allow Increased Flexibility for Providing Wetlands Mitigation

The process of developing wetlands mitigation requirements to achieve the goal of no net loss would be improved if the Section 404 program acknowledged that there are substantial differences in wetlands values. Most importantly, it must be recognized that many of our nation's wetlands are degraded and of relatively low-quality due to urban development and other land use modifications. If we are to achieve the goal of no net loss, wetlands restoration should be encouraged to provide compensatory mitigation as an important and valuable part of the Section 404 program.

There are uncertainties in the science of wetlands restoration and we still have a great deal to learn. However, wetlands restoration is feasible. Sizable wetlands restoration projects have been implemented successfully at various locations throughout the country. Adequate funding is necessary and monitoring requirements must be established to ensure success.

However, only by encouraging wetlands restoration projects as mitigation under the Section 404 program can we hope to improve the quality of the nation's degraded wetlands and ultimately achieve a net gain in wetlands values.

The Section 404 program also should encourage mitigation banking as an important tool to promote the goal of no net loss of wetlands.[10] Mitigation banking presents a unique opportunity for cooperative relationships among federal and state agencies and the private sector to achieve important environmental benefits. The federal government should work with the states to create incentives that will encourage landowners to donate property or provide funding for the establishment of mitigation banks. Market forces can then be relied upon to ensure that parties in need of mitigation credit for wetlands impacts caused by development projects come forward to implement wetlands restoration at these locations.

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[10] EPA and the Corps have suggested that mitigation banking may be an acceptable form of compensatory mitigation and indicated they will provide additional guidance on this issue. Mitigation MOA, at 4. The establishment of mitigation banks also was strongly recommended by the National Wetlands Policy Forum. See The Conservation Foundation, Protecting America's Wetlands: An Action Agenda, The Final Report of the National Wetlands Policy Forum (1988) (hereinafter "National Wetlands Policy Forum Final Report"), at 41-43.

C. The Section 404 Program Should be Modified to Encourage Predictability and Reduce Delay

The Section 404 program should be streamlined at all levels. First, there should be a single federal process designed to address the concerns of all federal agencies simultaneously at the earliest possible time. Second, Congress should require federal agencies to coordinate closely with state and local authorities during the local land use approval process.

There has been a great deal of debate and criticism concerning the division of responsibility between the Corps and EPA in administering the Section 404 program. We are not aware of any other government program which involves two agencies sharing overlapping authorities in this manner, and suggest that it might be appropriate for Congress to designate a single agency to exercise Section 404 decisionmaking authority with no opportunity for a veto by a second agency. Alternatively, concerns regarding duplication of effort and conflicting policy objectives might be addressed within the existing regulatory structure if a single process were established to require the active participation of all federal agencies in reviewing Section 404 permit applications.

The creation of a unified Section 404 program would require that EPA be brought into the permitting process at the earliest possible time as an active participant. From the perspective of the regulated community, it is totally unacceptable for EPA to engage in last-minute reviews of permit applications, particularly once all state and local approvals have been obtained. There is too much at stake to allow the lack of certainty that presently exists in the Section 404 program. By requiring all federal agencies to participate together in the permitting process, delays will be reduced and predictability increased.

To further streamline the regulatory process, Congress should require federal agencies to coordinate permit review under the Section 404 program with land use decisionmaking by state and local agencies.[11] An integrated federal and state process for resolving wetlands concerns would reduce the risk of inconsistent results and increase the efficiency of the Section 404 permitting process.

In requiring closer coordination between federal and state permitting, Congress should encourage state and local agencies to assume primary responsibility for wetlands protection.[12] Local land use agencies have a wide variety of regulatory controls at

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[11] Regulations promulgated by the Council on Environmental Quality ("CEQ") to implement the National Environmental Policy Act ("NEPA") encourage federal agencies to cooperate with state and local agencies in reviewing the potential environmental impacts of proposed development projects. 40 C.F.R. § 1506.2 (1989). Although NEPA applies to permitting decisions by federal agencies, the CEQ regulations have not been sufficient to result in widespread coordination of federal, state, and local review of projects requiring a Section 404 permit.

[12] See National Wetlands Policy Forum Final Report, at 5 (recommending that primary responsibility for wetlands regulation be delegated to qualified states) and 19 (finding that local governments are particularly well situated to integrate wetlands protection and management into comprehensive land use planning).

their discretion which are more effective than the Section 404 program in protecting wetlands and achieving wetlands restoration. For example, wetlands could be delineated and their values assessed through the land use planning process. Federal agencies would participate fully in wetlands planning undertaken by local agencies, but then should be required to rely on the results of such efforts in the Section 404 permitting process. In addition, traditional land use controls could be used more effectively then the Section 404 program to achieve wetlands protection and restoration goals, both on a project specific basis and regionally.[13] High-quality wetlands could be protected through zoning designations for land uses such as conservation or flood control protection. Similarly, local land use restrictions, such as density controls, development performance standards, setbacks and open space requirements, and payment of fees for wetlands restoration, could be required to protect and enhance wetlands values as conditions of project approval.

CONCLUSION

The recommendations discussed above would make the Section 404 program more effective in achieving the goal of no net loss of wetlands. Signal Landmark remains committed to developing environmentally sensitive projects that result in a net gain of wetlands values and an overall improvement in environmental quality. We encourage the cooperation of Congress and the federal agencies administering the Section 404 program in pursuing these objectives.

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[13] See id., at 36 (the National Wetlands Policy Forum found that land use controls exercised by local governments provide the most extensive and direct authority over wetlands alteration).

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TESTIMONY OF THE MUNICIPALITY OF ANCHORAGE, ALASKA BEFORE THE SUBCOMMITTEE ON WATER RESOURCES ON A NATIONAL WETLANDS POLICY

FEBRUARY 28, 1990

My name is Steve Silver, and I am the Washington representative for the Municipality of Anchorage, Alaska. Anchorage is the major urban population center for Alaska, having roughly 50 percent of the state's population. Anchorage is essentially a service center for other areas of Alaska, including the North Slope. We appreciate the opportunity to testify before the Subcommittee on the formulation of national wetlands policy.

The increased attention on the management of our nation's wetlands resources is the result of a growing awareness of the widespread degradation of wetlands habitat in the contiguous states. This has led to the development of a proposed national policy which would in theory prevent any cumulative net losses in the national wetlands base. The "No Net Loss" policy is not, however, readily adaptable to the unique circumstances in Alaska. The Municipality of Anchorage therefore opposes implementation of No Net Loss in Alaska.

Alaska's wetlands base remains largely untouched for a wide variety of reasons. Alaska's cumulative wetlands base is roughly 170 million acres, or 45 percent of Alaska's lands. Only 80,000 acres of wetlands have been touched. This represents 0.05 percent of Alaska's cumulative wetlands base.

Development in Alaska is severely constrained by geographic conditions. Much of the state is mountainous and will never be developed. Wetlands comprise roughly 75 percent of the remaining non-mountainous area which can support economic activity. Many Alaskan communities, including Anchorage, are located on the coast. There is very little room for growth for these communities without the necessity to develop wetlands areas in a sound and rational manner. Much of the anticipated activity in coastal Alaska centers around the development of port infrastructure which invariably involves wetlands. Additionally, communities must look to wetlands in expanding their airports and highways.

Alaska soils are different. They generally contain more moisture (snowmelt and rainwater) than soils in most other states. Consequently plants which survive in Alaska develop broad tolerances to moist soil conditions and, therefore, plants typically found in wetlands (such as the black spruce) are also found in upland or non-wetland areas. This moisture characteristic results in acreage being categorized as wetlands that would not be the case in more temperate zones.

A key requirement of No Net Loss is mandatory compensatory mitigation as a condition for development. The most rigid application of No Net Loss would require communities and applicants for individual permits to compensate wetlands development on an acre-for-acre basis.

This approach would strangle economic development in coastal Alaska. Since these communities and their residents must develop wetlands, they would be forced to engage in compensatory mitigation for every proposed project. In Alaska, there is very little wetlands which can be reclaimed. 140 million acres of Alaska's wetlands are located on state and federal lands and are largely undeveloped. Of the 80,000 acres that are developed, much of that land is located on the North Slope. In most cases communities or applicants would be forced to pay for the cost of reclaiming wetlands in other areas of the state, in other states or creating artificial wetlands in Alaska which would in almost every case serve no ecological purpose.

It is the small business entrepreneur that would be crushed by an inflexible, quantitative application of the No Net Loss rule. If the cost of wetlands reclamation or creation is imposed on small business people who are trying to expand in Alaskan communities, their projects will often become economically infeasible. It is one thing to require compensation for the loss of wetlands in areas of high density population or development with high biological value. It is, however, irrational and unfair to create tremendous disincentives for small business in order to preserve a strict acre-for-acre quantitative mitigation policy.

Expansion of No Net Loss to Alaska is unnecessary because the existing regulatory structure already protects wetlands from uncontrolled development. From an historical perspective, the Congress has already designated the lands in Alaska where development is to be restricted or prohibited. Through various congressional actions, the land-use compromises have already been made. Implementation of the No Net Loss policy would obliterate these compromises and place the federal government once again in control of virtually all of the state's remaining lands and prohibit their orderly development for human needs.

With respect to Anchorage, development is carefully controlled by overlapping federal, state, and municipal regulatory requirements. Anchorage has an elaborate mechanism for regulating wetlands development within municipal boundaries. In 1982, the Anchorage Assembly adopted the comprehensive Anchorage Wetlands Management Plan. This plan was developed in consultation with Federal and State authorities, and received considerable scrutiny as part of a comprehensive public review process.

All wetlands fall under one of three categories. "Preservation" wetlands are those lands selected for the importance of their natural character and high functional and ecological value. Only uses or activities which enhance, restore, or preserve the natural character of these wetlands are allowed. "Conservation" wetlands are those lands which are deemed to possess intrinsic wetlands functions, but which may be compatible with human activities. Any development is carefully controlled to preserve the natural character of those wetlands. "Developable" wetlands are lands which as a general rule have a relatively low functional value.

The designation of a wetlands parcel as "developable" does not, however, mean that development activity is automatically approved. Each project is still subject to the existing Army Corps regulatory process. Anchorage currently enjoys General Permit status. Activities eligible for General Permit approval are those which involve discharges of dredged or fill material which cause only a minimal adverse impact on the environment. Even if the project is eligible for a General Permit approval, the District Engineer still reserves the right to conduct an individual review in the public interest.

All other activities not eligible for General Permit approval must engage in the laborious Individual Permit process governed by Section 404(b) of the Clean Water Act. The Anchorage Plan already includes a range of mitigation measures in the planning, design, and construction phases of development in order to promote the goals of avoidance, minimization, and compensation. Such compensation measures include the restoration of valuable wetlands areas, land exchanges designed to encourage the preservation of other valuable wetlands, and public acquisition of valuable wetlands for preservation.

The key distinction between implementation of the Anchorage Plan and the No Net Loss policy is that compensatory mitigation is not required in all cases under the existing regulatory framework. No Net Loss would completely disrupt the delicate balance between environmental protection and the human interest embodied by the Plan. No Net Loss is a quantitative acre-for-acre formula which assumes that Federal, State, and Local decision makers in Alaska cannot effectively carry out this balancing. It completely ignores the real solution to wetlands development in Alaska--to establish a permitting process which has its basis in the actual functional value of the wetlands parcel in question.

One final point should also be highlighted. Implementation of the No Net Loss policy would have an irreversible economic impact upon the Municipality of Anchorage. As the state's trade, service and population center, Anchorage's economic sectors, municipal revenues and workforce are primarily dependent upon resource development which takes place outside its geographic boundaries. Businesses and other communities procure many of their services from Anchorage-based firms, and a large share of the supplies are channelled through our port. By imposing higher costs on development throughout Alaska and slowing statewide growth, No Net Loss will further aggravate Anchorage's already depressed economy. Any resolution of the No Net Loss issue must be directed at the entire state.

The Municipality of Anchorage therefore submits that it is fundamentally unfair for the Federal government to require Alaskans to satisfy a No Net Loss policy designed to arrest the problems of wetlands degradation in the continguous United States. The most straightforward solution to this problem is to recognize Alaska's unique circumstances and provide for an Alaska-specific exemption to No Net Loss.

Thank you for being allowed to testify.

✓SUGGESTED REMARKS BY SANFORD WANNER ON BEHALF OF THE NATIONWIDE PUBLIC PROJECTS COALITION BEFORE THE WATER RESOURCES SUBCOMMITTEE OF THE U.S. HOUSE OF REPRESENTATIVES PUBLIC WORKS AND TRANSPORTATION COMMITTEE ON FEB. 28, 1990

Mr. Chairman, Members of the Subcommittee:

I am Sanford Wanner, of Williamsburg, Virginia, and I appear before you today in my capacity as Vice chairman of the Nationwide Public Projects Coalition.

The Coalition is an organization whose leaders are almost entirely from the public sector. They are principally elected officials and career service executives. All of them have responsibilities, entrusted to them by the same voters who elect Senators and Representatives, for planning, financing and building public infrastructure projects which are needed for a variety of human needs.

The Coalition's major concern is an escalating inability in this nation to bring water supply and highway facilities on line because of what we believe to be regulatory abuse in several Federal agencies.

As the name implies, our membership is nationwide. Also it is growing, because the problem is growing.

The Coalition came together last summer out of a sense of frustration with a variety of regulatory abuses and a conviction that reform is absolutely necessary if basic needs of people are to be provided by state and local government. We are not specifically a wetlands-concerned organization, but right now wetlands issues are taking up most of our energies simply because it is a major legislative and administrative topic in Washington these days.

Furthermore, it is obvious to our leadership that, just now, wetlands has become the "impediment of choice" among the environmental society soldiers of fortune who, last week, called a news conference to attack the President and John Sununu for exercising a modicum of caution in addressing environmental policy changes.

I mention that news conference because it involved some of the same people whose names are listed in the Final Report of the National Wetlands Policy Forum.

Please don't misunderstand. The report of the Forum was, for the most part, a document in which the Coalition finds considerable merit, particularly in providing a baseline for discussion.

However, we also believe that any legislation or promulgated regulations should underline, far more than the Forum report did, the necessity for wetlands policy managers to aggressively assist in balancing wetlands values with other needs of people -- especially adequate water supply and mobility infrastructure.

The problem lies not in the document but in what zealous Federal regulators can do with it.

We have a very recent example of how this almost inevitably works. I refer to the wetlands mitigation policy memorandum of agreement between the Environmental Protection Agency and the U.S. Army which became effective on February 6. It was depicted, particularly by EPA, as nothing more than a statement of policies which already were being used in parts of the nation. But, on careful reading, the original draft made wetlands mitigation more difficult to achieve than has been the case under current law and policy and, moreover, represented rulemaking without the usual opportunities for public input.

But, despite the lack of proper process there was sufficient protest from around the nation that the White House, EPA and the Army were obliged to come forth with another draft. Some of the more high-handed aspects were modified, but the new MOA still represents a potent new weapon for those who will use it to delay if not stop nearly every major water storage project and new highway right of way in the Eastern United States and Alaska.

Our Coalition believes that, if a balancing process is not mandated by Congress and by the White House in the evolving wetlands policy, the result will be more oppression rather than effective protection for our wetlands resources.

Please remember that our constituents are your constituents, and ultimately they pay for both sides of this altogether too adversarial system.

Thank you.

THE STATUS OF OUR NATION'S WETLANDS AND LEGISLATION RELATED THERETO

TUESDAY, MARCH 13, 1990

House of Representatives,
Subcommittee on Water Resources,
Committee on Public Works and Transportation,
Washington, DC.

The subcommittee met, pursuant to recess, at 10:05 a.m., in room 2253, Rayburn House Office Building, Hon. James A. Hayes (acting chairman of the subcommittee) presiding.

Mr. **Hayes.** The Subcommittee on Water Resources will come to order.

The Chairman, to his everlasting chagrin, is in a fog at the airport not caused by Government, but on this occasion caused by natural conditions which fit well into our wetlands hearing.

I am going to go ahead and put his statement into the record, which is very short.

After yielding to the ranking Republican member, I will slightly change the order. I am not going to put my own testimony in. We will start with Congressman Pallone, then in my place, I will move over to Leighton Steward, then I will keep things in order for a while until complete chaos breaks out into the audience.

This morning the Subcommittee on Water Resources meets to continue its series of hearings on the status of our nation's wetlands.

The Subcommittee has renewed its series of hearings on wetlands which began in the spring of 1989. This year we have received testimony from the Conservation Foundation concerning the legislative proposals of the National Wetlands Policy Forum, the United States Environmental Protection Agency and the United States Army Corps of Engineers, as well as several distinguished Members of Congress and individuals representing themselves and various organizations.

At today's hearing we will receive testimony from the United States Fish and Wildlife Service as well as Members of Congress and several individuals. The Subcommittee remains interested in all points of view as we develop a clearer idea of what Federal legislation is necessary and what shape that legislation should take in developing a comprehensive Federal/state program related to wetlands.

Before we begin with our first witness, I yield to my distinguished colleague from Minnesota, the ranking Republican Member of the Subcommittee, Arlan Stangeland, for whatever opening remarks he may wish to make. I also wish to submit for the record the statement of our subcommittee chairman, Mr. Nowak.

[Mr. Nowak's prepared statement follows:]

STATEMENT OF CHAIRMAN HENRY J. NOWAK

This morning the Subcommittee on Water Resources meets to continue its series of hearings on the status of the Nation's wetlands and laws related thereto.

The subcommittee has renewed its series of hearings on wetlands which began in the spring of 1989. This year we have received testimony from the Conservation Foundation concerning the legislative proposals of the National Wetlands Policy Forum, the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers, as well as several distinguished Members of Congress and individuals representing themselves and various organizations.

At today's hearing we will receive testimony from the U.S. Fish and Wildlife Service as well as Members of Congress and several individuals. The subcommittee remains interested in all points of view as we develop a clearer idea of what Federal legislation is necessary and what shape that legislation should take in developing a comprehensive Federal/state program related to wetlands.

Before we begin with our first witness, I yield to my distinguished colleague from Minnesota, the ranking Republican Member of the subcommittee, Arlan Stangeland, for whatever opening remarks he wishes to make.

Mr. HAYES. Mr. Stangeland?

Mr. STANGELAND. Thank you, Mr. Hayes. Welcome to the subcommittee. I will enjoy working with you. Unfortunately, I have a hearing on cotton where I sit as the ranking Republican as well, and I need to run over there and see what the cotton people want in the 1990 Farm Bill. So I will have to absent for a while. Hopefully we will have another Republican here to sit with you until I can be back, and I will expect to be back within a half hour or so.

We continue our hearings on wetland protection in an effort to learn more about the specific problems of the President's no overall net loss goal, and the proposals. In recent weeks we have heard from a wide variety of players in the wetlands arena. There is a definite need for improving the regulatory programs, providing more incentives for good stewardship, and encouraging increased use of successful restoration and compensation measures, including mitigation banking measures.

We have also received and will continue to receive an enormous amount of testimony about the failure to recognize competing values in the public interest, such as local development, water supply, and transportation and regulatory intrusion on private property rights, particularly those of farmers.

The agricultural community recognizes the need to be good stewards of our land, water and wetland resources. However, in the past, agricultural drainage has played a large role in the loss and protection of our wetlands. Whatever we do, we need to continue to recognize the importance of agriculture and the Congressional mandate that certain normal farming, soil culture and ranching practices be exempt from unduly burdensome Section 404 permitting requirements.

A balanced approach, I believe, is the key.

On that note, let me mention one approach that I am pursuing in the Agriculture Committee as part of the 1990 Farm Bill. Very soon, hopefully this week, I will be introducing legislation to expand the Conservation Reserve Program to include wetlands.

This would target sensitive areas that have been farmed in the past as well as those vulnerable to farming and agricultural conversion in the future. It is a preventive measure that builds upon a public-private partnership.

In effect, it also embodies the recommendations of many, including the National Wetlands Policy Forum and environmental organizations to establish an agricultural wetlands reserve or preservation trust. I believe this is a workable and balanced approach to protect wetlands from future drainage, help the overall no net loss goal, and recognize private property owners rights.

Too often we resort to heavy-handed regulatory steps, when we could accomplish the same resource protection goals through other innovative measures. I would hope that members of this committee would join my colleagues on the Agriculture Committee in co-sponsoring this legislation. This will be one of several components of a more comprehensive wetlands protection bill I plan to introduce in the coming weeks.

I look forward to receiving the testimony today, and welcome our witnesses. I know that I leave this Committee in excellent hands.

Mr. HAYES. The Chair apologizes to Mr. Stangeland for the mistake, but I didn't make the mistake, since I am sitting for the Chairman. The record will disclose that that is Henry's mistake. This is great. I like this.

I will just enter my statement into the record, and recognize Congressman Frank Pallone from New Jersey for his statement.

[Mr. Hayes' prepared statement follows:]

STATEMENT OF CONGRESSMAN JIMMY HAYES

Mr. Chairman, as we debate the future of this country's wetlands today, these precious lands are losing a fight for their very survival at a rate of 52 acres per hour. Consequently, I appreciate your letting me discuss with the committee today the nature of this problem and the concerns and approaches I believe this committee should heed in its efforts to combat the degradation of our wetlands.

As many of us now know, at the time of the initial settling of this country there were 215 million acres of coastal wetlands. By 1985, 56% of that total had been lost to both natural and human-induced processes. Unfortunately, there is even more discouraging news in that since 1955, an average of 458,000 acres of wetlands are lost each year in the continental United States. Over 20 years, that figure equates to a land mass the size of Massachusetts, Connecticut and Rhode Island, combined. Furthermore, without immediate action, it is estimated that the Gulf of Mexico wetland system, alone, will suffer the loss of another 1 million acres by the year 2040.

So what can we do under the current system to actually retard or reverse this destructive trend? Let's look at the nature of the wetlands in question. Nationally, 74% of all wetlands are privately owned, with only 26% being held by either federal or state governments. In plain English that means if Congress develops the perfect regulatory process for protecting wetlands on all federal lands, a move even optimists find unlikely, and we lose only 5% of the land privately held, we will still lose over 17,125 acres of wetlands each year. While many of my colleagues may not be able to visualize the consequences of this scenario, let me put my concerns into more political language: I am not in jeopardy of losing my district's seat here in the House due to reapportionment, but to erosion.

Consequently, something *must* be done to provide the private sector with some form of incentive to actively participate in the development and implementation of wetland management plans on their property. The future of this country's wetlands clearly rests upon their shoulders.

What each of us needs to remember, however, is that we must keep in mind that the majority of the lands we are talking about here today are owned by individuals and companies that have the right to use their lands in many ways, with each being protected by the Constitution. We must be careful not to rush to the salvation of these lands by simply developing a nationalized land-use plan. Instead, I would urge my colleagues to listen to the following approach.

Clearly, the goal of each of us is striving to reach in the course of this debate is the protection of our wetlands. Therefore, I believe that we should try to *reward* landowners who will undertake actions that parallel and satisfy our concerns.

In light of this philosophy, I have introduced legislation that provides a 75% tax credit for any qualified expenditure spent for restoring, conserving, rehabilitating, or maintaining a wetland. The reasoning for such a proposal is quite simple. Under current federal policies, even while jumping through the impenetrable walls of the Section 404 permit process, it it still profitable to develop wetlands. My legislation, and my goal, therefore, is to make wetland conservation an economically feasible alternative as well.

While I am not here simply to plug my bill today, my legislation does give me the chance to speak to each of you about looking at this problem from a new vantage point: one where we look to work together with landowners, environmentalists, and landusers.

Throughout these hearings we have discussed the dollar values of our wetlands, noting, for example, that Louisiana's wetland alone represent a $1 billion renewable resource each year, and we can continue to discuss the aesthetic values they provide for us and our children, but the time is upon us to finally stop calling these lands national treasures without treating them as such. Wetlands are some of the most valuable and productive lands in the world, I hope we will be successful in passing them on to our children.

I noticed in the Capitol a few days ago an inscription uttered in 1910 that is perfectly suited to the debates of today. Teddy Roosevelt said, "The nation behaves well if it treats the natural resources as assets which it must turn over to the next generation increased, and not impaired, in value." I believe that these words would serve us well in this debate.

Again, Mr. Chairman, I appreciate this opportunity and I hope that I have spurred some new thoughts on how to approach this issue as we continue with our efforts in the committee.

Mr. PALLONE. Thank you, Mr. Chairman.

I want to discuss my views on developing a positive policy for protecting our nation's remaining wetlands. I want to start out by telling you that in many cases here in commenting on our national wetlands policy, I am speaking from personal experience.

In my congressional district, the urge for development in wetlands areas, whether it be riverfront or oceanfront areas, has been great. It really is one of the major issues confronting my congressional district—what the future of America's wetlands policy is.

In many cases, when I talk about the memorandum of agreement or some of the problems with it, or some of the problems that have existed with the Section 404 program, I would like to give some examples of projects, primarily residential, but also some commercial projects, that have come up in my congressional district.

In beginning my testimony, I have to tell you that I am very concerned about the recently executed memorandum of agreement and the disturbing trend in the way the Administration's environmental policy is being formulated, by reference to that memorandum of agreement. In many ways, when the agreement was first made public, back in November of 1989, it was seen by many as progress towards the President's stated policy of no net loss of wetlands.

However, with the changes that were announced just a few weeks ago in February, I feel that basically we now are seeing a clear reversal of the President's stated goal in assuring no net loss of wetlands. I am concerned that many of the loopholes that now exist, which I would like to briefly comment on that are in that memorandum of agreement as revised, need to be corrected legislatively if we are going to ensure this no net loss of wetlands policy.

First of all, I would like to say, and I have stated before, I guess it was at the April meeting of this Committee, that I would like to see us go beyond the no net loss goal. Although that clearly is a positive development in terms of the past with regard to wetlands policy, I really believe that a starting point in our wetlands conservation effort should be a policy of net gain, rather than a policy of no net loss.

By the gain, I mean that we should think in terms of replacing lost wetlands with a greater ratio than what was lost. One of the points included in the memorandum of agreement is the notion of one-for-one mediation. There is in fact a footnote in the memorandum of agreement that talks about how in some cases, the one-for-one ratio may not even be necessary, that perhaps the replacement or restoration of lost wetlands can be less than the one-for-one.

I am opposed to that. That's one of the problems that I see in the memorandum of agreement as it has been revised. I think we should be looking to rebuild our lost wetlands, and that actually the memorandum should reflect a policy of a greater ratio than the one-for-one.

In some of the hearings we have had in the past, it has been brought up that if we are going to have a net gain policy, in many cases that really involves creating artificial wetlands or restoring wetlands that have been lost. The question is can we effectively do that?

Although it is not as easy to create new wetlands or restore old wetlands as trying to preserve what you have, I think the bottom line is that it has been successful in many cases, and I can give you some cases in my own congressional district. I think that notion of trying to improve on the present situation is realistic and we do have a lot of examples of it.

Next I want to comment on the addition of language in the memorandum of agreement mandating that projects must result in environmental gain or insignificant environmental loss. That last addition, which was in the revised memorandum that came out a few weeks ago, of insignificant environmental loss, I think that language will have a disastrous effect on wetlands in the State of New Jersey. It really is the largest loophole and the one that we need to correct, either legislatively or by regulation.

How can one fathom the notion of insignificant environmental loss when our nation's waters are so highly polluted? In other words, the problem is that in my congressional district, I can name dozens of examples of permits granted under the guise of everything else on the block has been developed. Any further development would be considered insignificant, so let's build here as well. This is an argument that is actually used by developers before local planning boards, before State agencies, before the Federal agencies.

I think if we start off with a policy that somehow there is this exception for insignificant environmental loss, it just allows for all kinds of opportunities for developers to come in and say, "Well, this area has already been impacted so severely, there is no point in trying to preserve any more of the wetlands."

The other thing that concerned me in the Memorandum of Understanding was the notion of offsite mitigation. In other words, a lot of times in my congressional district developers will come in, and they have two or three sites, one of which most impacts the wetlands. They will say that they would like to mitigate by making up for the wetlands in a more upland area that is not necessarily on the site where they are destroying the wetlands.

Once again, this revised Memorandum of Understanding seems to allow for that option. I think it is a mistake, I really do, because it allows developers to come in and say "We can destroy a prime area of wetlands, then at the same time seek to mitigate at a site upland." That is not as desirable from a wetlands point of view.

Basically, what I would advocate is that we legislatively or by regulation put the EPA and the Army Corp's own language back in the wetlands policy, and legislatively correct the problems with that Memorandum of Understanding.

I want to talk about a few other things that are not necessarily related to the Memorandum of Understanding. I think they are important in terms of our goal of legislating a national wetlands policy. In New Jersey, within the last couple of years we passed a rather progressive piece of legislation called the New Jersey Fresh Water Wetlands Act.

One of the major controversies surrounding the passage of that bill, the part that is the most progressive, is the inclusion of buffer or transition zones bordering wetlands areas. I would like to see our national wetlands protection policy include that notion of buffer or transition zones bordering wetlands.

While not actually wetlands themselves, transition zones are vital to sustaining life in the wetlands areas, and can be extended during the mitigation process. A responsible wetlands protection policy cannot stop right at the edge of the wetlands, but must extend into the surrounding areas. Again, this has come up quite a bit in New Jersey, which is why the New Jersey legislation was so controversial. There have been many examples where wetlands have ultimately been destroyed because the upland area or buffer zone was not protected adequately.

Finally, back in April 1989, when I first started asking questions of some of the witnesses that appeared before the Subcommittee on Wetlands Policy, I stressed and made perhaps more important than anything else, the problem that we face in New Jersey with enforcement efforts in terms of wetlands permits.

I am afraid that our present enforcement efforts are inadequate to prevent illegal construction in or near wetlands. It is interesting, because we spend a lot of time on the Federal level talking about what wetlands policy should be, and how Section 404 permits should be administered.

But more and more, when I go back to the caseload in my congressional district, I find numerous complaints of people that say that the builder or developer never even bothered to seek the wetlands permit. Unfortunately, that is getting to be more often the case than not, that we find out later because of an adjacent homeowner or someone from municipality reports the fact that in putting in a new project, someone simply never applied for a permit. They build in the wetlands, then later somebody finds out about it, they go back and require mitigation.

The bottom line is that something must be done about that. I don't know whether that is being seriously addressed as far as any legislation, because we tend to think of enforcement as a separate issue. But I do believe that legislatively we need to address that issue to provide for better enforcement, to make it a situation where the permit is not granted after the fact, when the wetlands have already been destroyed.

Mr. Chairman, I want to add in closing that I am very pleased that the Subcommittee is spending so much time on this issue. I appreciate the Subcommittee's consideration of my concerns. As I said, in my district and in the State of New Jersey, the whole question of what we are going to do with wetlands policy really is a major concern.

Thank you.

Mr. **Hayes**. Thank you. I have an observation, and I won't keep you, because I am sure you have more than enough things to do.

The point that you raise about net gain to me emphasizes the distinction between the two most common types of wetlands loss. In part of your statement you refer to active ongoing development, in other words, an action which results in a loss, and the environmental concerns, the business concerns, would all be tied to whether Project X would indeed result in damage, and if so, then the means by which that could be mitigated, or the criteria by which the project is denied.

There is a second and entirely distinct area of loss which I think is overlooked sometimes in our concerns. That is by doing nothing. Much of my state, and part of yours is doomed to be lost through inactivity. I would like your opinion on whether if we go forward with legislation, we could try to try to use the talents of those on the Staffs as well as the Members who serve here to try to make distinctions between the two, and the mechanism involved with each, which is in fact quite different.

In one, we are doing nothing, and it results in an inactivity which many might argue is better. But the other one, clearly doing nothing, has a consequence of constant loss, and never allows us to begin to catch up, let alone ever be able to approach a standard of net gain.

Is that the same? Is my perception correct of New Jersey with two distinct types of problems?

Mr. **Pallone**. If I understand you, you are talking about what would happen naturally because of runoff, because of overdevelopment that is occurring on the areas, that we start to lose wetlands because of the natural events. I guess theoretically, if we were in a pristine environment, that would not happen. But you are talking about the development that is already here.

Mr. **Hayes**. The consequence of man-made activities that may have taken place a half century ago.

Mr. **Pallone**. Exactly. No, I think that is definitely true, and I see that happening. That needs to be addressed.

Mr. **Hayes**. I see that our friend from Mississippi has come in, a most irritating State constantly bothering Louisiana State University in athletic events. Would the gentleman care to make any inquires of his colleagues?

Mr. **Parker**. Louisiana is just so easy to bother.

To my colleague from New Jersey, I appreciate your coming. I know of your interest, and I would like to get your views on some things.

Mr. **PALLONE**. Surely.

Mr. **PARKER**. When you look at New Jersey, New Jersey's agricultural—the amount it has on your income is pretty strong, which surprises a lot of people. When we are talking about the Section 404 permits, we have got a problem in areas like in Mississippi and Louisiana where we have large soybean fields we irrigate. We take land that has been used for literally decades.

Now we are in a situation where they are going to be requiring Section 404 permits to put a little terrace crop in, as far as runoff water. How do you view that from a standpoint of agriculture on large tracts of land that would not be classified as wetlands in my way of thinking? For some reason, anything that has any type of moisture on it all of a sudden is being classified as a wetland.

How would that fit into what you are talking about as far as areas in your State where you do have a tremendous amount of wetlands where basically you have to demuck the land in order to build anything at all?

Mr. **PALLONE**. Let me say that there is very little agriculture in my district, so what I was talking about was mainly in terms of development of residential and to some extent commercial projects that directly impact the wetlands.

I know that in New Jersey, and you are right, because I guess it was within the last couple of weeks that Congressman Roe was talking about the same thing you are bringing up. He used the analogy in New Jersey with the cranberry growers. I think New Jersey is either second or third—I had better watch my step, they may even be first—in terms of the cranberry production nationwide. There are large areas that fit into that category perfectly.

He was making the point that we need to address that in the legislation, and perhaps make exceptions for that type of situation. I would be willing to do that. I don't know exactly how to do it, though.

Mr. **PARKER**. That's my problem. In areas where you live, when you go down into Florida, down into Hollywood, Florida, every time they build something down there, they are demucking the land and they spend a tremendous amount of money taking out basically the wetlands and bringing in field dirt in order to make something to build on.

First of all, that many people should not live that close together. That's the first thing that should be said. It is ridiculous for people to live that close together. We have areas in my State where——

Mr. **HAYES**. Where no one lives?

Mr. **PARKER**. Yes, where no one lives. No one wants to live there.

Mr. **HAYES**. We spent $852,000 to get here. That just flies through my mind for some reason.

Mr. **PARKER**. The point I am making is that we have areas that are not developed. We are talking about acres and acres of land we have used for farming.

Mr. **PALLONE**. I think you have to treat it differently.

Mr. PARKER. Somewhere along the way there has to be some common sense. It is not the same thing as what you are talking about.

Mr. PALLONE. I agree, and I think it needs to be treated differently, and when Congressman Roe brought it up, he was really making that point. As you say, New Jersey has these great variations. I have been down to the cranberry bogs, and it clearly is wetland. They use a tremendous amount of water in the whole process. It needs to be treated differently.

Mr. PARKER. Let me ask you another question. When you talk about developing offside, because I don't have this clear in my mind. When you are talking about here's a wetland that everyone classifies as a wetland, then you are talking about developing offside an area that directly affects the wetland.

Mr. PALLONE. What has happened is that when the Memorandum of Understanding was revised, it took out the language—I could probably give it directly to you, here, because I did bring a copy of it. Let me show you directly, because I think it is significant to see how it was revised.

Mr. HAYES. If the gentleman would yield for just a moment, I know that we have some members who are having difficulty getting to and joining the hearing. If I could impose upon some of those at the door to perhaps be so kind as to spread a bit through the committee room, it might be both more convenient and hopefully more attractive for additional members to make their way up here.

I apologize, Mr. Pallone, go ahead.

Mr. PALLONE. What happened is that the Memorandum of Understanding that was adopted between the two agencies, EPA and Army Corps in November, was revised in November. Of course, the newspaper accounts say that Mr. Sununu was primarily responsible for that. There were three key changes. One was the addition of insignificant environmental loss, which I mentioned.

The second was that the original memorandum had language that said that the environmental gain must be solely attributable to the project itself, exclusive of benefits which may accrue from proposed compensatory mitigation. That sentence was taken out when it was revised. What I take that to mean is that you don't necessarily have to do the mitigation on the site.

Theoretically, and this has happened in my district, a developer will have a site that is prime wetlands, he will have another site that is more upland, not connected to that site, and maybe a third site somewhere else. He will go and make this sort of a package, and say "If you let me fill in the prime wetlands area, I will do some mitigation at the other site." That site may be in another part of town, or maybe not even be in the same community, which is uplands, and really is not very valuable from a wetlands point of view.

That's the loophole I am concerned about, that I think we should close, legislatively.

Mr. PARKER. One other point, back to farming. Just as you are concerned with your district, I am concerned about mine. When we go back to the Section 404 permits, you have a farmer out there and let's say the reason he is putting in the six-inch terrace is in order to stop any type of soil erosion. So he is trying to protect the land.

But in order to do that, because of the involvement and the interest in wetlands right now, because it is on a core site, especially, he cannot just go and do that, because it needs to be done, he has to get a permit. That tends to create problems from a time standpoint, and from a common sense standpoint, and I think that has to be taken into consideration all the way through this thing.

We have several members of Congress who represent areas that are very heavily in large-scale farming. We have got to have a little common sense as far as all this is concerned.

I appreciate your coming and sharing your testimony.

Mr. PALLONE. I agree with you. Thank you.

Mr. HAYES. Thank you very much, Mr. Pallone, I appreciate your appearance.

Mr. PALLONE. Thank you, Mr. Chairman, it is great to see you this morning.

[Mr. Pallone's prepared statement follows:]

STATEMENT OF REPRESENTATIVE FRANK PALLONE, JR.

STATUS OF OUR NATION'S WETLANDS .

Mr. Chairman, I am here today to discuss my views on developing a positive policy for the protection of our Nation's remaining wetlands. I begin my testimony today with the fear that the recently executed Memorandum of Agreement (MOA) concerning wetlands has begun a disturbing trend in the way the Administration's environmental policy is formulated.

This latest example of Administration back-pedaling on the environment represents a clear reversal from the President's stated goal of ensuring no net loss of wetlands. The short-sighted interests of those less concerned about the environment have may won out . . . for now.

Together we must move legislatively to correct loopholes in the agreement which threaten the recharging and refiltering of groundwater supplies, increase flooding hazards, and endanger plant and animal species. Indeed, I would like to see us go beyond the no net loss goal, which should merely be the starting point in our wetlands conservation efforts, to a policy of net gain.

By net gain, I mean that we should think in terms of replacing lost wetlands with a greater ratio than what was lost. I am opposed to the notion of 1:1 mediation that was included in the MOA. The notion of 1:1 mediation will not help us rebuild our lost wetlands. The only environmentally responsible and acceptable policy for wetlands management is one that will lead to a net gain in overall wetlands acreage. The idea of a net gain in wetlands should be an immediate goal, not a long-range one.

I next want to comment on the addition of language in the MOA mandating that projects must result in environmental gain or insignificant environmental loss. Much of the criticism of the MOA is aimed at this language and its virtual exclusion of a protective wetland policy in the States of Alaska, North Carolina and Louisiana. I say that this language has a disastrous effect on wetlands in the State of New Jersey. Moreso, it is a loophole wide enough to drive a bulldozer through.

How can one fathom the notion of insignificant environmental loss when our nations waters are so highly polluted. Wetlands are the most important buffer for filtering sediment and abating pollution.

In my Congressional District, I can name dozens of examples of permits granted under the guise 'Everything else on the block has been developed; any further development would be insignificant; let's build here as well'. Worse yet, the mitigation for this wetland loss is often at sites upland, removed from the wetland area which once provided flood control, water quality checks and plant and animal habitats.

The solution is simple, put the EPA's and the Corps' own language back into wetlands policy; "environmental gain must be solely attributable to the project itself, exclusive of benefits which may accrue from proposed compensatory mitigation."

I want to see legislation which addresses the loss of half our wetlands since the Europeans settled here, which defines rather that denies environmental loss and which requires mitigation measures to match loss in environmental quality control—(flooding, groundwater filtering, reducing erosion & abating pollution). Replacing an acreage of wetlands 2 miles away does not even address the minimal goal of no net loss.

To this end, I call for a National Wetlands Protection Policy to include buffer or transition zones bordering wetlands. While not actually wetlands themselves, transition zones are vital to substaining life in the wetlands areas and can be extended during the mitigation process. A responsible wetlands protection policy cannot stop right at the edge of the wetlands but must extend to the surrounding areas.

Finally, we must address the need for exhaustive enforcement efforts in terms of development. Our present enforcement efforts are inadequate to prevent illegal construction in or near wetlands. In April of 1989, I questioned the Army Corps on this matter before this Committee. I was told that the Army Corps did not have the staff to monitor all violations that occur. Beyond that, I know from the case load in my office that too many developers never even both seeking a permit, and just go ahead and build without giving any thought to protection or mitigation.

Mr. Chairman, I want to add in closing that I am pleased the Subcommittee is considering wetlands again at this time. I appreciate this Committee's consideration of my concerns and hope that we will address these issues legislatively in the near future.

Mr. HAYES. The Chair will recognize, in my place, Mr. Leighton Steward, the Chairman of the National Wetlands Coalition. I see that you have Mr. Szabo at your side.

TESTIMONY OF H. LEIGHTON STEWARD, PRESIDENT, CHIEF EXECUTIVE OFFICER, AND CHAIRMAN OF THE LOUISIANA LAND AND EXPLORATION CO. AND CHAIRMAN OF THE NATIONAL WETLANDS COALITION, ACCOMPANIED BY BOB SZABO, ACTING EXECUTIVE DIRECTOR

Mr. STEWARD. Thank you, Mr. Chairman. I am Leighton Steward, Chairman and CEO of The Louisiana Land and Exploration Company. With me is Bob Szabo of the law firm of Van Ness, Feldman and Curtis. Bob also is the acting Executive Director of the National Wetlands Coalition. I am Chairman of the Coalition, and it is in that capacity why I am appearing here today.

Our membership is geographically and economically diverse. The public sector members are engaged in water supply, port and airport development. The private sector members are landowners, utility companies, energy companies, Alaska native corporations and homebuilders.

I think the diversity of this membership underscores the importance of the wetlands issue to the nation. Long before the recent public attention to wetlands protection issues, some of us were actively involved in innovative ways to protect the wetlands ourselves. For example, LL&E, which is the largest private owner of coastal wetlands in the United States, owns 600,000 acres in Louisiana where massive subsidence and erosion has been taking place.

Since 1954, LL&E has built over 400 water control structures. We have spent over $1 million a year, and we have placed more restrictive demands on our lessees than has been required by any of the agencies or any of the governmental bodies.

Other coalition members have displayed similar concerns for the wetlands. Mr. Chairman, I would submit that we have been doing something.

It is this direct, on-site experience we think would be of invaluable benefit to any group or agency that is contemplating regulations regarding the wetlands protection issue, in terms of either management or enhancement. The Coalition is here today to offer its commitment to work with the Congress and the Administration to devise policies that take into account society's competing needs for conservation and for reasonable use.

The National Wetlands Coalition believes that policy initiatives must address four general categories of issues and we have set up a task force within the Coalition to address each one of these issues. First, the goal of no overall net loss of wetlands must be defined. Second, meaningful incentives for private sector participation must be created, because the private sector owns three of every four acres of the wetlands.

Third, wetlands regulatory processes must be reformed, and fourth, funding mechanisms must be developed. We want this Coalition to be a veritable reservoir of practical knowledge and experience in innovative ideas and we want Congress and the Interagency Task Force to see us coming with these ideas.

Relative to future regulation and legislation, the Coalition specifically supports the President's no net loss goal. We support multiple use concepts. We support mitigation. I am talking about physical mitigation. We also support, in some instances, greater than one-to-one compensation ratios. In some instances, we would support less than one-to-one compensation ratios, because not all wetlands are created equal.

We also support the concept of mitigation banking and the common sense application of function and value tradeoffs in the mitigation process. We also believe there should be the development of a clearly articulated goal statement, including a recognition of tangentially related national goals, such as national security and national economic needs.

We want this so that we can all support the wetlands cause, and so that staffers in the regulatory agencies view their interface with the landowners with cooperation, and a cooperative spirit. We are going to be constructive, and won't view them only as strict, rigid enforcers of the rules.

The very process by which the EPA and the Corps attempted to put into effect the recent Memorandum of Understanding created substantial concern that no effort would be made to consider the public, local governments' or landowners' views as the Administration moves forward. As the Section 404 permit becomes increasingly a vehicle for Federal land use regulation, as it clearly has, it is absolutely essential that Congress look into its effect, scope and implementation.

Most of the landowners in the United States don't even realize they have been affected yet.

In conclusion, what do we think should be done? First, we think that on the locations, the functions, and the values of the nation's wetlands should be identified and mapped. I am talking about the 100 million acres of wetlands that remain. We also think that we should identify and map the location, function and values of the wetlands that have already been lost. Unfortunately, that's another 100 million acres.

Then we should prioritize the areas where we want to have either a net acre or a net value gain. We should concentrate our limited funds and our limited efforts. We should identify and map where the natural losses are occurring, and treat these areas differently.

Since 75 percent of the wetlands are privately owned, we should develop specific incentives for wetland restoration for those owners. We should treat projects that are temporary, that temporarily affect the wetlands, differently and focus our other efforts elsewhere.

Since the permitting has become hopelessly bogged down, we think we should consider giving the Corps of Engineers more temporary authority to break this logjam, because the permitting process is hopelessly backed up.

That needs to be done to break the impasse between some of the agencies. Let's arm the Corps with an overall intent, then let them go do their business.

Lastly, I think we should push the use of superplants and grasses as mitigation measures. This would be to stem the tide or stem the loss. I believe this is our greatest intermediate term opportunity to help.

We therefore recommend that higher levels of funding for the Soil Conservation Service's plant and material centers be addressed. I am just talking about a few hundred thousand dollars here. They are really doing some very valuable work relative to wetlands restoration.

Mr. Chairman, we want to help. Please call on us.

Mr. HAYES. Thank you. I just want to ask a couple of brief questions. I know that you are as familiar with my State as I am, and there are probably some people who don't care to hear us talking about it for several hours.

The three quarters of the wetlands that is in private hands—that is true for Louisiana and I know it is true nationally—with your work in the Coalition, is that roughly true in each State individually as well? Or is that a coincidence that Louisiana and the national figures are almost exact?

Mr. STEWARD. That's just a coincidence. It wouldn't be the same in every state, I don't think, because some of the states in the west are heavily Federally-owned. Whereas in Louisiana, Texas, Mississippi—some of the states down there, most of the land is in private ownership.

Mr. HAYES. What about Maryland and New Jersey—the coastal states? Would that hold pretty true to the three-to-one figures?

Mr. STEWARD. I would guess so, but I don't know the specific figures on a state-by-state basis.

Mr. HAYES. Let me recognize the gentleman from California, Mr. Cox, for any questions you may have.

Mr. COX. I am anxious to hear the balance of the testimony.

Mr. HAYES. Okay, thank you. I believe Mr. Borski has arrived.

Mr. BORSKI. No questions, Mr. Chairman.

Mr. HAYES. Boy, this is easy. Photographs at the Holiday Inn go a long way, don't they?

Mr. Packard, from California, is recognized.

Mr. PACKARD. Are there procedures now in place that would give incentives to landowners and developers to convey to public domain some of their wetlands in the interest of getting development rights?

Mr. STEWARD. No, sir, Mr. Packard. That's the reason that in the mitigation process, we think there should be incentives for the landowner to either donate some of his land to make up for a development project he is going to undertake, or some other method of compensation. We don't have any incentives, really, to encourage the private owners to put their land into a mitigation bank right now. We think that would be a good idea.

Mr. PACKARD. With the no net loss policy, and I subscribe to that, the tendency is that there be no net loss on each transaction.

Mr. STEWARD. Yes, sir.

Mr. PACKARD. Sometimes that places undue hardship in making the whole agreement come together, because there are requirements, and I think all of us are fully aware of specifics where there is as much as five-to-one requirement of replacement.

Mr. STEWARD. Yes, sir, and that could go either way. I certainly agree that it should not always be one-to-one because we strongly would say that not all wetlands are created equal. The reason for creating wetlands or going in and restoring part of the 100 million acres that the nation has lost here is really to help make a better habitat for wildlife of all kinds.

So it is easy to envision that you could take a wetland and destroy ten acres of it through whatever process, and then create a five-acre pristine area that the wildlife could live in more abundantly, and come out a net plus.

That could go the other way. You could destroy one acre of prime wetland, and you might want to go out and create ten acres of less desirable wetland, which would still balance out, relative to overall usage.

Mr. PACKARD. In your view that's acceptable procedure?

Mr. STEWARD. Yes, sir. We think that on a region-by-region basis one must look at that. People in the agencies that are following the procedures that have been set up should have the flexibility to consider these kinds of things. We think that is a very important part of this. We support no net loss of value and sometimes of acres.

Mr. PACKARD. Thank you.

Mr. HAYES. I would be delighted to recognize the gentleman from Florida.

Mr. GRANT. Thank you, Mr. Chairman. I apologize for being late, my plane was late, and I may ask a question that has already been asked.

I am interested, Mr. Steward, in your definition of wetlands. We had testimony last week, I think it was, from a couple of members of the scientific community, who indicated that there were different functions of wetlands. There could be flood conveyance, flood storage, recharge areas, there could be wildlife growth area, all functional wetlands definitions, but with different purposes.

There could also be under current definitions of wetlands, a slight depression in the middle of a cornfield. First of all, do you subscribe to the belief that there are different functions of wetlands?

Mr. STEWARD. Absolutely.

Mr. GRANT. When you say that there ought to be a no net loss policy, or beyond a no net loss policy, do you mean that we should mitigate with the loss of wetlands by the same function, or that there should be a different kind of functional replacement for those wetlands?

Mr. STEWARD. I definitely think we should look at replacing the same function initially. If for some reason you cannot do that, because you don't have the kind of land or property within the immediate area to do that, then I think one could consider mitigation on the basis of different functions. But that's where the flexibility needs to be built into the system. I would first say that you should try to replace it function for function.

Mr. GRANT. So that would be your preference—to have a functional replacement of wetlands as opposed to a strict acre-for-acre replacement?

Mr. STEWARD. Yes, sir, that's correct.

Mr. GRANT. Thank you, and thank you, Mr. Chairman.

Mr. HAYES. Thank you very much.

Mr. STEWARD. Thank you, sir.

[Mr. Steward's prepared statement appears on page 1625.]

Mr. HAYES. If we can pause for just a moment, the Chair is going to take Mr. Hunt out of order, but would ask that you just pause for a moment.

Mr. Hunt?

If we were on television, this would be filler—if C-SPAN were covering this, or we would go to commercial break.

I believe Mr. Anderson wishes to come over to introduce the next witness.

The Chair recognizes Mr. Anderson, the distinguished Chairman of the full Committee on Public Works and Transportation, the gentleman from California to introduce Mr. Hunt.

Mr. ANDERSON. Shall I tell him everything I know?

Mr. HAYES. It would certainly be entertaining.

Mr. HUNT. Please don't, Mr. Chairman.

Mr. ANDERSON. I will be brief. I want to thank you, Mr. Chairman, I want to say I think you are to be commended for holding these hearings on the critical and sensitive issue of wetlands. Our nation's wetlands are precious and delicate. The awareness of this is something that I hope is shared by everyone on this Committee, and all those who appear to testify before us.

I know it is an awareness that is shared by our next witness, Mr. Gary Hunt, of the Irvine Company of southern California. While Mr. Hunt's specific views may not be shared by everyone, they are nonetheless important ones that need to be given our consideration.

Mr. Chairman, I know you join me in welcoming Mr. Hunt.

Thank you for being here.

Mr. HAYES. Thank you, Mr. Anderson. I also want to recognize the gentleman from California, Mr. Cox.

Mr. COX. Thank you.

It is a pleasure for me, as well, to welcome today a constituent and a friend, Mr. Gary Hunt, representing the Irvine Company. The Irvine Company is fortunate to enjoy the leadership of Don Bren and senior executives like Gary Hunt. They have been pioneers in the creative strategies to accommodate the growth needs of California, and the desire of all Californians to preserve our unique natural heritage.

I look forward to hearing Gary's testimony, and I invite my colleagues to note the innovative and thoughtful approaches that these good corporate citizens have brought to a complex problem area that has great import for our quality of life in the 1990s.

Mr. PACKARD. May I just make a comment or two?

Mr. HAYES. Certainly.

Mr. PACKARD. I represent a district that is adjacent to Irvine, and in the reapportionment there is a possibility I may even get part of Irvine.

Mr. HAYES. You may even get part of Louisiana in the reapportionment.

Mr. PACKARD. That would stretch our imagination a little bit further, but anything is possible in reapportionment when it is controlled by the Democrats.

Mr. HAYES. In that case, I am going to get Irvine. Nice to meet you.

Mr. ANDERSON. Could I ask the gentleman a question? Are you suggesting that if we could encourage the Irvine Company to come down into your district and work on you that they could make some improvements there?

Mr. PACKARD. I don't doubt that. I don't see the need to suggest, I am convinced you are right on that. But I have had the opportunity of working with the Irvine Company, though, through working on this Committee and other committees. They are one of the premier companies of the country in master planning, and in the case of the City of Irvine, they have taken a pristine area and master planned it, taking into consideration some very sensitive and very important wetlands. They have done what I consider to be a very commendable job.

Mr. ANDERSON. I was thinking of improving you, more than the wetlands.

Mr. PACKARD. It would take more than the Irvine Company to do that.

Mr. ANDERSON. That's a pretty big job.

Mr. HAYES. Do you get a striped shirt when you agree to take this over?

Mr. ANDERSON. You should get something.

Mr. PACKARD. I do want to join with my colleagues in introducing Mr. Hunt as a very astute and very valuable asset to the Irvine Company, and I am very pleased to see you before our Committee, Mr. Hunt.

Mr. HAYES. Thank you.

Mr. Hunt.

TESTIMONY OF GARY HUNT, SENIOR VICE PRESIDENT, IRVINE CO., NEWPORT BEACH, CA

Mr. HUNT. Thank you, Mr. Chairman, Chairman Anderson, Mr. Cox, and Mr. Packard, thank you very much for those kind words.

On behalf of the company, I would like to say we are very pleased and honored to be able to sit before you here today. Last time I was in one of these Committee meetings, it would have been standing behind one of the illustrious members, Mr. Bergner, as his legislative assistant, and that was many years ago. This is the first time for me to be here at this table, and it is a real pleasure to do so.

I have some prepared remarks I would like to share with the Committee, then open up myself and the gentleman sitting next to me, whom I will introduce, to any questions you may have. We have copies of our comments submitted for the record.

My name, as indicated by the good Members, is Gary Hunt. I am Senior Vice President of the Irvine Company. Joining me this morning at the table is Mr. William Boyd, Special Counsel to the Irvine Company, whose focus is environmental law, with special emphasis on our company's dealings with the Army Corps of Engineers, EPA, Fish and Wildlife Service, and other regulatory agencies involved in the Section 404 permitting process at the State and Federal level.

Mr. Chairman, the Irvine Company is a master plan community builder, engaged in the long-term economic utilization of land holdings that total approximately 64,000 acres located in Orange County. To put that into some perspective, that represents 100 square miles, or approximately twice the size of the District of Columbia.

Over the past 30 years, the Company has undertaken the master planning and development of some of the nation's most innovative and comprehensively planned new communities. Given the scale of our landholding, the nature of the resources of our lands, and the long-term ownership of these real estate properties, we have been extensively involved in environmental planning.

This has ranged from the creation of over 23,000 acres of open space, a wetland restoration program about to be undertaken in conjunction with the University of California Natural Reserve System, restoration of the upper Newport Bay, and many other projects designed to ensure a balance between the environmental protection of our land and the growing urban and suburban community within which we reside.

We are, Mr. Chairman, very proud of this record. Due to our long-term history in environmental planning, and our long-term view of continued ownership of this land resources, we are extremely concerned both with the new policy direction set forth in the recently adopted Corps and EPA Section 404 Memorandum of Understanding, and with the overall policy approach of the Corps 404 permit program.

At the outset, let me state, Mr. Chairman, that the Irvine Company fully supports the national goal of no net loss of wetlands. This policy represents a significant initiative by the Federal Government directed toward protecting an important national asset.

Inherent in this policy is the concept that wetland protection must include restoration and enhancement as well as preservation. However, we strongly believe that the present EPA-Corps policies most recently embodied in the Corps' EPA Memorandum of Understanding, will not assist in the accomplishment of the no net loss goal and will, in practice, preclude the creation of meaningful restoration and enhancement programs.

Our concerns are twofold. First, several of the provisions of the Memorandum of Understanding are a significant departure from the Corps' 404 regulations and Section 404 NEPA case law, particularly in their disregard for the concept of compensatory mitigation as a primary tool for wetlands enhancement.

Second, the Memorandum of Understanding's assertion that avoidance as the primary environmental review criterion, effectively undercuts the Corps' ability to assess overall wetlands benefits provided under compensatory mitigation programs.

In a fundamental sense, the Memorandum of Understanding dramatizes the degree to which Corps-EPA 404 regulations themselves have been contorted over time into a series of bureaucratic obstacles to creative wetlands restoration projects, funded through private development project mitigation programs.

In our view, the present Corps-EPA policies as embodied in the Memorandum of Understanding, create regulatory hurdles, rather than incentives for wetlands enhancement and restoration in two major ways. First, the Memorandum of Understanding's approach to sequencing decisions, with avoidance as the first step in the sequence can effectively prevent the consideration of overall wetlands benefits.

By inhibiting the consideration of overall wetlands benefits, the Memorandum of Understanding forecloses the opportunity to use the regulatory process to enhance wetlands values by encouraging builders to prepare project designs that will enhance wetlands values on site or off site.

Second, instead of emphasizing wetlands restoration as a dual national goal along with preservation, Corps-EPA Memorandum of Understanding treats wetland mitigation programs as a deviation from the proper sequence of decision making, and one that can only be considered when EPA, in its wisdom, decides it is appropriate.

In contrast with the Memorandum of Understanding, we believe that wetland restoration and enhancement must be viewed as a policy objective of a status equal to preservation, particularly where non-coastal or degraded wetlands are involved. In contrast with the policies of the Memorandum of Understanding, State and local governments have increasingly recognized that public policy is best served when regulatory efforts are designed toward viewing restoration and enhancement of environmentally sensitive areas as a co-equal policy consideration to avoidance.

As an example, the Irvine Company is sponsoring a major enhancement project in the San Joaquin Marsh wetlands in conjunction with the University of California, the California Department of Fish and Game, and the United States Fish and Wildlife Service. I would like to take a moment to describe to you this much-heralded wetland restoration program.

The purpose is to illustrate the public benefits of compensatory mitigation in contrast to how the Corps-EPA Memorandum of Understanding policies could be used to frustrate the application of a restoration policy. Clearly, the environmental benefits far exceed any benefits realized if we are forced to comply with the sequencing process of the existing Memorandum of Understanding.

The San Joaquin Marsh Wetland Enhancement, Restoration and Creation program is located in the most important remaining freshwater wetland in the coastal area of Southern California. The impetus for this wetland program comes from the desire of the

Irvine Company to create a wetland mitigation bank that can be used to mitigate the impacts to wetland areas of inland, non-coastal projects in a comprehensive manner, rather than on a piecemeal basis.

Under this program, wetland values in the San Joaquin Marsh will be enhanced in several ways. First, new water areas and vegetation enhancement actions will be taken within the existing portions of the Marsh owned by the University of California Natural Reserve System. Second, substantial new wetland areas will be created both from dry lands and existing marsh areas owned by the Irvine Company and contiguous with the University's marsh lands.

Third, a reliable source of supplemental water supply will be provided by the Irvine Company with existing and newly created wetlands. Fourth, the new wetlands area will be dedicated to the University's Natural Reserve System, to guarantee its protection and perpetuity. Fifth, the Irvine Company will provide the University of California with a capital fund that will be used to generate annual maintenance revenues.

Thus, the San Joaquin Marsh Wetland Restoration, Enhancement and Creation Program will result in an enhanced 285-acre major freshwater marsh, complementing the inter-tidal wetlands of the nearby upper Newport Bay.

Funding for the marsh program will be derived from an Irvine Company industrial park project that will impact approximately 10 acres of wetlands already determined to be of generally low quality. So far, this project sounds very reasonable. We have a development project which impacts 10 acres of low-quality wetlands, fed by water from our own agricultural operations, which were we not growing citrus, there would not be a wetlands.

We compensate for its loss by creating, restoring and enhancing in perpetuity a 285-acre freshwater wetlands mitigation bank. What can go wrong?

Under the Corps-EPA sequencing approach, the Irvine Company could conceivably be precluded from having the San Joaquin Marsh program considered, so long as there is what the Corps or EPA determine to be a practicable alternative to avoiding the impact on the 10-acre low quality wetlands area. We would be allowed to present the overall net wetland benefit of our marsh enhancement project only if EPA were to determine that we should be allowed to deviate from the sequencing approach outlined in the Memorandum of Understanding.

If we manage to overcome the sequencing regulatory hurdle, we will then encounter EPA's preference for an on-site mitigation over off-site mitigation. Under the Memorandum of Understanding, which could well require denial of a Corps 404 permit so that the 10 acres of wetlands can be avoided, the public would lose 85 acres of additional wetlands, and a $2.5 million wetlands restoration program at one of the most important wetlands in Southern California in return for preserving 10 acres of low-quality, agriculture fed wetlands surrounded by an industrial park.

Quite frankly, we cannot believe that this was Congress' intent in enacting the Clean Water Act. Yet, the current Corps-EPA policies and Memorandum of Understanding have precisely this policy orientation.

Given the almost boundless discretion enjoyed by the regulatory agencies in determining whether an applicant has a practicable alternative, it seems certain that the Memorandum of Understanding will result in wholesale permit denial or at best, studies and delays as an endless array of alternatives is reviewed. Permit denials and delays are not consistent with the underlying public policy goal of wetland preservation and enhancement. They will only discourage private industry involvement in funding wetland restoration at the same time due to delay, and add significantly to the cost of housing and other development.

In our view, the Section 404 permit process should require the Corps to reflect the following wetlands considerations in its review process. First, enhancement or restoration of existing wetlands or creation of new ones can and should be strongly encouraged, as a valuable form of mitigation for development impacts. Second, not all wetlands are equally valuable to an ecosystem. Some wetlands are severely degraded in their present state and are not capable of being preserved in a way that will maintain significant habitat values.

Third, the emphasis on avoidance as the primary policy objective should be balanced with a stronger emphasis on comparing the net wetland benefits of a project's wetland mitigation program with the habitat values that will result from a rigid adherence to avoidance.

Based upon these three principles, Mr. Chairman, we would like to make the following recommendations for consideration by this Committee and the Congress.

First, that the Corps-EPA Memorandum of Understanding should be rescinded. The Corp and EPA should be directed by legislation if necessary to prepare a new Memorandum of Understanding emphasizing that restoration of wetlands should be treated as a policy objective, with a status equal to avoidance preservation, and the concept of overall net wetlands benefit should be the central criterion for Section 404 permits.

Our second recommendation, sir, is that the EPA should not be granted the authority as presently provided in the Memorandum of Understanding to determine whether a permit applicant can present its compensatory mitigation program for 404 permit consideration.

Three, to implement the above policy directives, the 404 permit review process should be structured to provide for the use of compensatory mitigation, as an alternative to avoidance, without the sequencing requirement. Section 404 implementation policies should strongly encourage wetland restoration and creation through compensatory mitigation programs, especially in the non-coastal areas, or degraded wetlands.

Fourth, a national policy perhaps embodied in legislation, should be adopted to encourage the creation of wetland mitigation banks, to promote comprehensive wetlands protection and enhancement, instead of piece-meal avoidance of wetlands area, regardless of their quality and environmental value.

Fifth, the differences in regional climatic and habitat conditions require different criteria for determining what a wetland is, and what habitat objectives should be pursued in administering the 404 program. Present use of a uniform nationwide wetland delineation program should be discontinued in favor of a regional approach reflecting the foregoing factors.

Sixth, wetlands should be categorized according to value and the degree of regulation should vary according to that value. Marginal wetlands should not be subject to the same level of review as pristine wetland areas.

Seventh, the present multiple agencies approach with conflicting policies and authorities, i.e., the Corps, EPA and the United States Fish and Wildlife Service, should be eliminated and replaced with a program comparable to the Coastal Zone Management Act, which will lead to State certification and administration of the program.

In conclusion, Mr. Chairman, we are convinced that a permitting system which viewed compensatory mitigation on an equal policy basis with avoidance and minimizing impacts, and takes into account the functional values of the wetlands as part of a flexible approach to the wetland preservation, is far more likely to achieve public policy objectives of preserving and enhancing our nations wetlands, than would the delays and inevitable permit denials resulting from the sequencing procedure contemplated under the Memorandum of Understanding.

This is particularly true in southern California, where much of the existing habitat is fragile, fragmented and geographically dispersed. These wetlands are best enhanced by consolidating them with other habitats into viable, larger-scale wetland areas dedicated for public ownership and management.

We at the Irvine Company take our ownership of the 64,000 acres, or roughly 24 percent or Orange County, very seriously. While we may own the land, we view our role as a steward of this resource. As such, we recognize the need to balance the environmental needs of the land with the economic and market realities of a growing county.

In that regard, Mr. Chairman, we, as do others who are owners and builders of large, long-term master planned communities feel we have much to offer. We strongly urge that our nation's wetlands policies encourage and foster participation by the landowner in a public-private partnership which will result in a realistic wetlands preservation restoration and enhancement program, rather than a process which creates a regulatory gauntlet of confusion, confrontation, and delay leading to no net gain for our nation's wetlands.

Thank you, Mr. Chairman, and Mr. Boyd and I will be glad to answer any questions you may have.

Mr. HAYES. Thank you. The Chair will recognize the distinguished gentleman from California and Chairman of the Full Committee, Mr. Anderson.

Mr. ANDERSON. Thank you, Mr. Chairman.

Gary, we sense a considerable amount of unease in the development community, and I think Irvine is a development community pretty much. We sense a considerable amount of unease over the current governmental administration of wetlands in the United States. How might we simplify the regulatory process, thereby alleviating some of the development communities dissatisfaction?

How might the development community be willing to assist us in this effort?

Mr. HUNT. First of all, Mr. Chairman, if I may I would like to expand the question a little big to go just beyond the development community. I think it should really deal with anyone that is involved in the 404 permit processing.

I think, as I commented in my statement, and Mr. Boyd may wish to add to this, that clearly one of the greatest levels of confusion that exists out there is the duplicity in regulatory agencies involved in this process. We spend a great of tine dealing with United States Fish and Wildlife, with EPA, with the Corps, once we talk to one agency, we then have to go talk to another.

Basically, it is a four-party negotiation. I think if in the process of the Clean Water Act, this Committee and the Congress were to take a look at developing a single regulatory agency responsible for the management and preservation, and most importantly the permit-granting process, for wetland preservation, enhancement and restoration, I think that would go a long way towards accomplishing that goal.

To that extent, we the company, and I certainly think those of the balance of the major landowner-builders in this country, ready to work with Congress and the agency to define and identify what the best way is to bring about a regulatory process that deals with the confusion we are currently faced with.

Mr. ANDERSON. That would establish national law or policy—how would you then work out the tremendously different levels in the state? Some states recognize wetlands well, and others hardly know they are there.

Mr. HUNT. I think in that regard, once we have consolidated this process to the extent the Congress feels comfortable in passing to the states the responsibility similar to what you have done on the coastal area of passing the responsibility of management of these wetlands to the states, that would even be a further, positive step. But as you point out, Mr. Chairman, some states are more apt to manage the wetlands consistent with the policies of this Committee and the House and the Congress than others. But that would have to be on a basis that you would determine.

Bill, do you have comments?

Mr. BOYD. Based on our experience and comments we have made, and others have made, clearly the climatic and geographic diversity of a country as large as ours indicates that there are very different wetlands conditions throughout the nation. Within California itself, the difference between San Diego and Humboldt in Arcadia, northern California, is like night and day.

We believe that initially, through the Federal process, if there is a focus on one Federal agency, that we could begin to work toward defining regional wetlands criteria and objectives that are responsive to the different conditions in different parts of the country.

The second step in that process, as Gary indicated, may well require legislation. That would be to have a process of each State preparing its plans, defining its wetland objectives, both preservation and restoration, and that those plans would then be presented through a Federal Government certification process comparable to the Federal Coastal Zone Management Act, so that the Federal

Government has a uniform, qualitative assessment of each of the state's plans. Then the states either qualify, or they do not qualify.

That system has worked under the Coastal Zone Management Act, and the Federal Government is able to assure quality control in the delegation process, and also of long-term oversight function.

So I think the combination of attempting to define regional objectives and policies, then to have the regional objectives and policies implemented through a State certification process and ultimate delegation of authority to a State agency would be a way in which we could be both responsive to different conditions but also assure the quality that is required to protect the no net loss. What we are advocating is hopefully a net gain in wetlands values in the long term.

Mr. ANDERSON. Gary, you mentioned the 404 permit. We recognize that long delays and lack of predictability in the processing of current applications are counterproductive to Section 404's goal of preserving the nation's wetlands, and costs that result from lost and costly project redesign.

How might we improve this situation? How would your industry be willing to help?

Mr. HUNT. Again, Mr. Chairman, I think that by centralizing the 404 permit process, if the Congress chooses not to proceed along the lines that Mr. Boyd just discussed, that failing that, if nothing else there was a consolidation within one agency of this process. A specific criteria or time frame within which this permits are issued would go a very long way towards dealing with the delays. We have had, as I am sure this Committee has heard from others, and I can tell you the same stories, we have had in some instances delays as long as 18 or 20 months on some projects.

That does not compare with the local time it takes to get zoning in California to build a house. That's two to three years. But putting that aside for a moment, it is a very long, arduous process, and it is very complicated. So to the extent it could be consolidated, that would go a long way towards helping the effort.

Mr. ANDERSON. Thank you, Mr. Chairman.

Mr. HAYES. The gentleman from California, Mr. Cox.

Mr. COX. Thank you. As I listened to your testimony, it occurred to me that we may have two definitional problems in our national goal of no net loss. One is that we risk with the Memorandum of Understanding weeding out the word "net" altogether so that our policy is no loss. The other is that we have to define carefully what we consider to be a wetland and what we consider to be a habitat.

On the latter point, I was particularly interested in the notion that we should categorize wetlands, that all wetlands are not the same. I wonder if you could tell us, with respect to southern California specifically, how southern California's wetlands might differ from those of the rest of the United States?

Mr. BOYD. Southern California is an essentially relatively arid climate, so that many areas that would be classified as wetlands under the current Corps-EPA system essentially are intermittent streams. A number of them have been created as agricultural drainage runoff channels. In essence, many of these areas exist either in fairly relative isolation, compared with other wetland complexes, or under the 404 process, it might be possible to preserve the wetland, but it will be surrounded by an industrial park or a residential development.

If you look at southern California over a long time frame, through the states' coastal initiative process, the State has a very stringent set of regulations applying to coastal wetlands. Coastal wetlands invariably need to be preserved. On the other hand, we also have severely degraded wetlands. There needs to be a recognition——

Mr. Cox. I wonder if I could interrupt you and ask you to expand a little bit on that term "degraded wetlands?"

Mr. Boyd. The definition of wetlands is so broad that essentially it is soils that are salty, or saline, dredged soils that have been deposited on the site and can support what is called wetland vegetation. I recently worked on a project for another landowner that involved 25 acres of wetlands that are essentially also an off-road vehicle area, a dog exercising area, and a general open space for the city of Seal Beach. It would be very hard, if you looked at it, to call it a wetland, but it technically meets the definition of a wetland.

What this project did is that it consolidated the wetland area, it actually shifted about five acres and focused it where the other 20 acres of wetlands are. As a result of the project approval that the coastal commission just gave, the project will be taking 25 acres of salt flats and converting it into 25 acres of tidal wetlands.

But the project, if we took a strict avoidance approach, we could have built the project around these salt flats and left them alone. Then we would have had degraded salt flats. But because of the incentives provided under the California Coastal Act for restoration, the landowner consolidated the wetlands and significantly and dramatically enhanced them. This is comparable to what we are planning on doing in San Joaquin Marsh.

So in some areas we have very pristine coastal wetlands, in other areas we have wetlands that have been degraded, or dredged for some activities. In other areas we have wetlands that in qualitative terms everyone would regard as low-quality because in many places they have been formed by agricultural runoff or they are remnants of larger systems.

When you look at southern California as a whole, what we are really trying to do is consolidate wetlands into larger scale wetlands complexes where the values interrelate, where there are different types of habitat, as we are doing with San Joaquin Marsh, a very large freshwater wetland complex close to Newport Bay.

So there are different kinds of wetlands. There are different kinds of policy approaches that need to be taken. The reason for our suggestion that restoration needs to be elevated to a level comparable to preservation so that we can look at these different values and decide which strategy is most appropriate.

Mr. Cox. As I understand both of your testimony then, the United States of America would be better off if we had a national policy that encouraged enhancement and restoration of valuable wetlands in exchange for development of degraded wetlands. We had an earlier witness, a member of Congress, who brooked some controversy with the goal of no net loss and suggested that we ought to have a policy of net gain. As I understand your testimony, you would not necessarily be opposed to that. In fact, what you just described might in fact be described as net gain.

Mr. HUNT. I think that our testimony is designed to in fact underscore not only support for no net loss but in fact say that we are practicable. There can in fact be a net gain. Your question regarding why southern California is different—the fact is that lands that are currently being identified as wetlands in the true definition, looking at Louisiana I am sure you would not under any circumstances, especially the inland non-coastal lands, as wetlands.

But what we find ourselves in is a situation where properties that clearly are not wetlands but really are just offshoots of water which is flowing from a subdivision that we may build out of a culvert, and settling into a ditch somewhere which in turn generates certain types of vegetation, which in turn qualifies it as a wetland. Were it not for the fact that we were building a housing tract, it would not be there.

The thought is that while that project or that particular piece of wetland may go away, the tradeoffs could be what we are doing with the San Joaquin Marsh. In our view that is a net gain. In this particular case, where ten acres of very questionable wetland is being given away for 85 acres of addition to an existing 200 acre wetland, plus a $2.5 million restoration and enhancement to an existing wetland—to me——

Mr. COX. That is a tradeoff of 8.5 to 1.

Mr. HUNT. That's about right. But to me, putting numbers aside, what that says is that while on a net loss or net gain, namely acre-for-acre, basis, there clearly is net gain there because we have created a 285-acre very credible wetland habitat which otherwise would not be there.

Mr. COX. Qualitatively, as opposed to quantitatively, you are upgrading much more valuable wetlands, as I understand your testimony.

Mr. HUNT. That's correct. Not only do we support no net loss, but we support a net gain concept, as long as it is practicable and within the context of recognizing restoration, enhancement and creation on an equal footing with preservation.

Mr. COX. Which means we can't read the word "net" out of that policy. I would like to ask you many more questions, but I will yield to my colleagues. I will ask just one more brief question.

If we pursue this notion of categorizing wetlands, given the duplication of effort to which you have already alluded, who would be best to carry out that function?

Mr. BOYD. In terms of experience in having administered the 404 program this long, obviously the Corps is the central agency. However, in terms of refining approaches to categorizing, we would hope there would be both State and Federal input into a categorization system.

Our State department of fish and game and other regulatory agencies like the Coastal Commission, along with the development community, have distinct ideas about how you would categorize systems in different areas. The Corps could certainly supervise the preparation of that just as it has the wetland manual.

But obviously, all the regulatory agencies with an interest in wildlife concern along with the development community and the environmental groups ought to be able to participate in that.

Mr. Cox. I thank you both for your testimonies. You have enlightened me, certainly, and I hope the rest of our panel today.

Mr. HAYES. If you will give me just a moment before I go. There are a couple of things I would like to have cleared up for my own benefit. I apologize—I think in terms of where I live just like you think in terms of southern California.

If we leave aside for a moment the issue of whether there is environmental concern, because I am most interested in asking our subsequent witnesses some of those questions, but leaving aside that. Assume for a moment that the enhancement of an alternative site is not opposed for environmental reasons. The practical question of management costs—how is that handled?

In other words, if you turn title over to the State or political subdivision, or if you maintain title in either event, which would you find more preferable and, secondly, how would you assure that there would be continued maintenance costs? In terms of my state, if you created 285 acres, suddenly you are going to have more ducks than you have ever seen, you are going to have problems with water circulation and that is going to cost money.

How do you address that question in California and how do you suggest it be addressed, as I say, skipping the environmental issues and assuming that the project has the support of everyone?

Mr. HUNT. Mr. Chairman, let me address that in the context of the company first. If I may, I would like to use the San Joaquin Marsh as an example.

The San Joaquin Marsh is designed as a mitigation bank. I think, as you look at least in California, and I can't speak to the balance of the nation in this regard, but if in the context of the Clean Water Act, Congress recognizes the equity, if you will, of avoidance with preservation enhancement and restoration, basically brings it up to equal level, so that we can get the compensatory mitigation up with avoidance.

Then you are going to find, basically, an ability on the regulatory agency, whoever it happens to be, to enter into agreements with the private sector for the creation of mitigation banks, where they can basically get credit for development that they may be causing over a given area or property.

The cost of that credit, and I use the San Joaquin as an example, the cost of that credit would be similar to what we are doing at the San Joaquin. We are in fact contributing 85 acres of land. We are in fact putting in $2.2 million in actual improvements to the existing 200 acre wetlands, which is being reflected in improved and consistent waterflow and vegetation support. We are in fact putting up $500,000 into a trust fund which will then be used for the ongoing maintenance of the 285-acre marsh.

The concept there is that basically you are creating a mechanism which people who need to disrupt wetlands habitat or use it for some reason can't buy into it—it's a bank. That provides the revenue for maintenance, it provides the revenue for enhancement and basically you are creating the structure.

Mr. **Hayes**. Did title go, in that case, to the State or a subdivision of the state?

Mr. **Hunt**. We are transferring title to the University, in that regard.

Mr. **Hayes**. OK.

Mr. **Boyd**. The financing mechanism for long-term maintenance is essentially that the project is impacting a wetland area that the creating of new wetlands or enhancement of a new location is the mitigation for the impact, so that a capital fund can be created through assessing the project just the way you would pay road construction fees or anything else.

What we have basically done with this at the University of California is calculated annual maintenance costs, and set up a capital fund that is sufficient to generate those revenues on a long-term, permanent basis.

Mr. **Hayes**. Thank you. I don't want to delve into that too much. I believe that would put Mr. DeFazio in order, if he wishes to ask any questions.

Mr. **DeFazio**. I have no questions.

Mr. **Hayes**. All right. The gentleman from California, Mr. Packard.

Mr. **Packard**. Thank you, Mr. Chairman. If the EPA and Corps were in agreement that a mitigation plan, San Joaquin being an example, were a better solution and would be in the best interests of all concerned, including the replacement of habitat, is it your understanding that with the sequencing arrangement of the Memorandum of Understanding that they would not be able to choose that as an alternative, but that they would be required to address avoidance as the primary approach?

What flexibility is in the Memorandum of Understanding that would or would not permit them to choose the best plan?

Mr. **Boyd**. As we indicated, the way the Memorandum of Understanding is structured is that you have the sequence that first in priority is avoidance. Then it is minimization of effects, then you go to compensatory mitigation.

The way the Memorandum of Understanding is written is that an applicant is entitled to present a compensatory mitigation program only if the Corps and EPA believe or conclude that they be allowed to deviate from the sequencing process. When it does, it sets up a presumption against enhancement and restoration and compensatory mitigation. Both from a litigation posture and from a processing posture, the applicant has no assurance that you can have equal policy considerations given to compensatory mitigation vis-a-vis avoidance.

What it is comparable to in land use is granting a variance. You have a certain entitlement, and you can only go and plead that you are entitled to vary from the rules and regulations. The whole system is structured as a presumption against that.

Technically the authority is there, of the EPA and the Corps. If they agree they can "deviate" from the sequence. The legal tests are structured that there is a strong presumption against anything that is not avoidance—avoidance is at the higher plane, restoration and enhancement are down here.

Mr. PACKARD. Has the Memorandum of Understanding been in force long enough to set a track record to how EPA and the Corps come down on the question of sequencing, and the flexibility that may be needed?

Mr. BOYD. It hasn't been there, it has basically just gone into effect. So we have not had any immediate experience with it. We have certainly had experience, though, with the policy attitude that we have to go through the alternatives analysis first, before we can even get to the question of compensatory mitigation. We have had that in discussions with the United States Fish and Wildlife Service.

Mr. PACKARD. Avoidance is always available, retaining the status quo and preventing anything from being done is always there. I suspect that the ability or the flexibility that the agencies themselves would incorporate into their decisions is really, in essence, that the developer is really at the mercy of their decision making. If they choose to follow the avoidance process being top of the list on their sequencing, then you have no alternatives other than to fight it through the courts.

Mr. BOYD. You pointed out a really central issue, and that is that in our view, the Memorandum of Understanding has departed, actually from the letter and the spirit of the current regulations. It has changed the concept of sequencing from an analytical process, which is in the regulations, to a decision-making process. If I could just you one brief quote from the regulations themselves, that the term "sequence" is used but it is an outline of steps. It says that to examine practicable alternatives, to identify mitigation.

Then what the regulations, in contrast to the Memorandum of Understanding, state is:

> This outline of the steps to follow in using the guidelines is simplified for purposes of illustration. The actual process followed may be iterative, with the results of one step leading to a reexamination of previous steps. Permitting authority must address all the relevant provisions of the guidelines.

That's what the regulations say. The regulations say that sequencing is an analytical process, that you look at all of the considerations together.

Mr. PACKARD. But your contention is that the sequencing becomes decision-making?

Mr. BOYD. The decision making process in a series of hurdles.

Mr. PACKARD. A second concern, or interest, I had in your testimony was your specific situation where you are developing or proposing to develop a mitigation bank that in your judgment far exceeds the initial replacement.

As that mitigation bank, you say, would be deeded over to a university.

Mr. BOYD. Yes, sir.

Mr. PACKARD. That does not, then, allow the company to retain the ability to sell portions of that mitigation bank for future purposes of development?

Mr. HUNT. That's correct.

Mr. PACKARD. You do not retain that? That is transferred to the University in this case?

Mr. HUNT. Yes, sir.

Mr. **Packard**. Does the University then have the ability to use that bank for mitigation purposes, for any lands that they may need to mitigate?

Mr. **Hunt**. In this particular case, I do not believe they would have the right to do that.

Mr. **Boyd**. The concept of a mitigation bank is that you set aside a large area of wetland. We are drawing down some of the credits for this initial project. We would then be able to draw down other credits, up to the maximum of other of the bank, for other small-scale projects we have scattered around the company's lands.

There are specific areas that cannot be—specific wetlands that have been designated in our agreement with the Fish and Wildlife Service that you cannot impact and cannot use for mitigation bank purposes. This is really for scattered, relatively low-quality wetlands. The significant part of it that the areas restored are being created right now, we might draw down those credits for five or ten years. So the values are in place at an early point in time.

Mr. **Hunt**. To answer your specific question, the university could not then in turn also use that 285 acres for mitigation.

Mr. **Packard**. What is the value, then, to the University?

Mr. **Hunt**. The University currently has a 200-acre piece of property which is part of this wetland habitat area, which they use in their biological research program, and so forth. It is an active area which is currently under study by the University itself. It is like a classroom for them.

Mr. **Packard**. So it enlarges and enhances that?

Mr. **Hunt**. It enlarges, enhances, and as I answered Mr. Hayes' question, we provide the funding to maintain it, in perpetuity.

Mr. **Packard**. As you develop funds from your mitigation bank for maintenance purposes, as is addressed by Mr. Hayes, does that also deplete the value of the bank, or the bank's ability to be used for at least that amount, to be used for further mitigation?

Mr. **Boyd**. If you could visualizes two separate pots of funds, one set of funds is used to restore, enhance and create wetlands in the entire 285 acres, 200 acres of University land, and 85 acres of Irvine Company land. That creates significant new wetland values.

Those values are a bank that we draw against. The $2 million that is for that creates the wetland value. The $500,000 capital fund is totally separate. It is placed into an essentially annuity form of investment by the University. They will generate annual revenues from that. They will use that as operating costs to fund groundwater pumping and maintenance activities.

Mr. **Packard**. Thank you, Mr. Chairman.

Mr. **Hayes**. Mr. Geren.

Mr. **Geren**. I have no questions, Mr. Chairman.

Mr. **Hayes**. Mr. Grant.

Mr. **Grant**. I was a little confused about the bank. Is it a bank of funds, an account of funds accumulated from compensatory mitigation or is it a bank of good will—I'm sorry.

Mr. **Hunt**. Let me try to explain a little further. Basically it is a bank of identifiable value, wetlands value, entered into and agreed to with the various agencies and the Irvine Company. As we do and we talked about this earlier, certain projects throughout the ranch where there might be a cluster of some type of vegetation due to whatever, we come to an agreement with the respective agencies as to what value that has in relation to what is in the wetlands bank, and as we take that out, then that value that is in the wetlands bank is withdrawn. So at some point in time, like a bank, we have used up the wetlands value, the habitat preservation value that we created.

Mr. **Grant**. So you start with, in your holdings, you have let's say 500 acres of wetlands, total, isolated in spots as well as maybe one large wetlands area. You start with that. Then under your definition, if you decide to build houses on top of one of these wetlands, and that's five acres, then what happens to the account?

Mr. **Hunt**. Then the equivalent habitat value of five acres is withdrawn from the account. So when the equivalent value of habitat usage is used up at this current wetlands, then we, working with the Corps, identify other major wetland banks to create that, then we draw down in following years from that.

Mr. **Grant**. Would you have the prerogative to draw against that account for any reason, regardless of the strategic nature of the wetlands?

Mr. **Boyd**. We have a formal, written Memorandum of Understanding with the Fish and Wildlife Service, Fish and Game, University of California. What that does is set up the value system that Mr. Hunt has discussed. We implement this program, and we will have X amount of value.

The memorandum has two specific provisions affecting your question. One is that it specifies certain very high quality wetlands, coastal wetlands and certain lakes that cannot be used, period, for mitigation bank purposes. Secondly, the regulatory agencies retain their discretion to approve or deny our projects, to approve or deny our right to use the mitigation bank credits.

There is no precommitment to approving any of our projects as a result of this. The only commitment that occurs is with the initial project. That would set up the bank. After that, the agencies retain total discretion to approve or deny our projects, and to say yes or no as to whether or not the mitigation credits are appropriate to use.

Mr. **Grant**. OK. Thank you.

Mr. **Hunt**. Thank you, Mr. Chairman and Members of the Committee.

Mr. **Hayes**. Thank you very much.

[Mr. Hunt's prepared statement appears on page 1466.]

Mr. **Hayes**. Mr. Morgenweck, of the United States Fish and Wildlife Service, is our next witness.

Mr. Morgenweck.

TESTIMONY OF RALPH MORGENWECK, ASSISTANT DIRECTOR FOR FISH AND WILDLIFE ENHANCEMENT, U.S. FISH AND WILDLIFE SERVICE, DEPARTMENT OF THE INTERIOR, ACCOMPANIED BY TOM MUIR, WETLANDS SPECIALIST

Mr. **Morgenweck**. Thank you, Mr. Chairman. I have with me today Mr. Tom Muir, a wetlands specialist from the United States Fish and Wildlife Service, and I am the Assistant Director for Fish and Wildlife Enhancement of the United States Fish and Wildlife

Service. I would like to thank you for this opportunity to discuss wetland conservation activities of the United States Fish and Wildlife Service.

I would like to begin by describing what we currently know concerning the status of wetland resources in our nation. As you are well aware, our studies have documented large losses in wetlands and their associated functions and values. In protecting wetlands and in developing the data necessary to make wise decisions regarding their protection, management, restoration and enhancement, the Service has not acted alone, but in concert with other conservation efforts underway in the Department of the Interior.

As the chief steward of our nation's natural resources, the Department of the Interior manages over 500 million acres of land and has the responsibility for managing and protecting the wetlands these lands contain. The Service has been working with other bureaus within Interior in establishing an effective and innovative program of wetland protection and restoration.

Wetlands are among the most biologically diverse and productive ecosystems. The effects of wetland losses in the United States that have concerned natural resources professionals for several decades have now generated general public concern. Over 53 percent of the now estimated 226 million acres of wetlands we believe existed in the contiguous United States at the time of European settlement have been lost.

In some parts of the nation, this valuable resource has virtually disappeared. In others, remaining wetlands have been severely impacted by pollution, sedimentation, and changes in hydrology resulting from water projects, both large and small.

The impacts associated with losing these many millions of acres of our original wetland acreage is now evident in terms of reduced wildlife populations, poor water quality, reduced natural flood storage capacity, and increased flooding. The loss of these valuable natural resources has prompted a call to action of wetlands conservation, exemplified by the President's goal of no net loss.

Very briefly, I would like to speak to the Service's wetland activities. I put those in three general areas. First is wetland protection activities, second, wetland restoration, enhancement and management activities, and third, wetlands information and education.

Examples of wetland protection efforts that the Fish and Wildlife Service is involved with include permit review. The Service is one of the primary advisors to the Corps of Engineers and the Environmental Protection Agency on matters relating to the Clean Water Act Section 404 permit program. On average, the Service has reviewed over 11,000 individual public notices each year.

In this review capacity, we serve as environmental consultants to the regulatory agencies, advising them on the values of the affected wetlands, the impacts of the proposed projects on fish and wildlife, and the appropriate ways to mitigate the damages to wetlands.

Under the Agricultural Wetland Protection and Restoration program, or Farm Bill activities, the Service is actively working with the Department of Agriculture and American farmers through our Farm Bill program. The Service provides technical assistance to the United States Department of Agriculture and to farmers regarding wetlands restoration.

Restoring wetlands that have been converted to agricultural use is often cost-effective and highly successful, compared to other types of wetland restoration.

Under wetlands restoration, enhancement and management, three prime examples of the Service's activities are the North American Waterfowl plan, our management activities related to our National Wildlife Refuge System, and our restoration activities under the Farm Bill.

The Service is now implementing the North American Waterfowl Management Plan, an agreement signed by Canada and the United States that relies on habitat protection, restoration and enhancement to restore the continent's waterfowl populations to the numbers that had occurred in the early 1970s.

Drought and drainage from agriculture and other development contributed to a drop in the continent's fall flight of waterfowl from 80 to 100 million ducks during the 1970 to 1979 period, and to a record low of 62 million in 1985. The 1988 fall flight was only 66 million.

In the National Wildlife Refuge System, the Service manages over 34 million acres of wetlands of which five million acres are part of the coterminous United States. These areas were established principally for the protection of migratory birds and endangered and threatened species. The Service has been in the wetland restoration and management business for many years on our refuges.

The third area is restoration of drained wetlands under our Farm Bill program. I would like to point out that the Fish and Wildlife Service has been on the ground working actively to restore wetlands at least for the three years. We have had a very active program. During that three year period, we have restored 55,000 acres of wetlands, and, in fiscal year 1989, we restored 37,000 of those 55,000 acres.

If the Congress approves the President's budget for fiscal year 1991, the Fish and Wildlife Service will restore an additional 45,000 acres of wetlands in fiscal year 1991.

Under wetlands research, information and education activities, there is one particular activity that the Fish and Wildlife Service has the responsibility for. It is truly a very important part of gauging no net loss. That is our national wetlands inventory, and its attendant status and trends survey of wetlands gains and losses in the United States.

Thus far, about 61 percent of the Lower 48 States and about 18 percent of Alaska have been mapped. We anticipate that the Lower 48 States will all be mapped by the year 1998, and that Alaska will be completed as soon as practicable thereafter.

The Service is currently completing a national analysis of wetlands losses from the period 1974 to 1984 to be released at the end of this fiscal year. I would like to point out that the Fish and Wildlife Service has the only statistically valid status and trends evaluation on wetlands gains and losses in existence. That is a separate activity from our national wetlands inventory activity of mapping wetlands as they exist throughout the United States. They are both carried out by the same organization, but they are two separate activities.

The Service also has a central role in wetlands identification and mapping through the wetlands inventory. Reflecting the importance and impact of this program is the fact that we anticipate the distribution of our one millionth wetlands inventory map in May of this year.

In addition to mapping wetlands, the Service has been instrumental in developing field techniques for identifying and delineating jurisdictional wetlands in conjunction with the Corps and EPA and Soil Conservation Service. These wetlands are subject to some form of Federal regulation or protection.

The Service recognizes that the National Wetlands Policy Forum Report was an independent, balanced and practical appraisal of the status of the public wetland conservation policy. The Service and the Department of the Interior share in the goals identified by the Forum Report and we have many programs and policies already in place to achieve them. Specific steps to address these goals will be addressed by the Domestic Policy Council.

Mr. Chairman, this concludes my remarks. If there are any questions, I will be happy to answer them, or have Mr. Muir assist me in that.

Thank you.

Mr. HAYES. Just sitting here commenting, as you were speaking I would assume that you saw recently a Washington Post article, you might supplement it with details I have forgotten since then. The way I remember it, it talked about agricultural defaults.

It made the point that the wetlands easements are being placed now on property even being reacquired by the original owners. It contained a reference indicating that the Administration might recommend the ending of the policy of placing the wetland easements upon lands that the Federal Government acquires through the agricultural loan defaults.

What is the position of your agency on that, if I have not unfairly burdened you by just synthesizing a newspaper article?

Mr. MORGENWECK. The Fish and Wildlife Service and Farmers Home Administration have had an existing agreement for several years. During that time, we have reached agreement on about 70,000 acres of easements with Farmers Home, covering about 700 properties, I believe. There have been recent discussions as to whether or not the agreement should continue in force as it is, or whether there should be some modifications to take into account the landowners who have defaulted on their property, but retain some rights to either lease back or buy back that property.

We have been in discussion with Farmers Home for some time on this matter, and it is still under discussion. The concern was raised because, I believe, of the opinion by the Solicitor in the Agriculture Department that the Agriculture Credit Act of 1987 would override the Executive Order on wetlands protection, and thereby not require the previous owners to allow easements. So there is some discussion going on. We have not gotten final word on that, to the best of my knowledge.

Mr. HAYES. The agriculture issue takes me also to the manual. There is conflicting information that I get on whether or not there is in fact a change in the definition of wetlands. What is the Agency's position—geographic differences or interpretation differences as to whether there is a new definition or not? Or is it a matter of semantics, argument over what the old definition meant in the first place?

Mr. MORGENWECK. Mr. Chairman, as far as the Fish and Wildlife Service is concerned—and I think this point is addressed in the front of the manual—it uses the definition of wetlands that is used in the Clean Water Act. Therefore, there is no change in definition of wetlands.

I think the issue arises largely because, in previous times, the various agencies involved in wetlands delineation used different techniques. As a result—and some of these techniques were not even mandatory by an agency involved—it allowed differences to crop up between different divisions in the Corps of Engineers, perhaps, even among people working for the same agencies.

What the delineation manual has done is to reduce the inconsistencies. I think we are seeing a concern expressed by some segments of society because some wet areas that before, under one of the delineation techniques, may not have been covered. In addition, the Corps of Engineers may not have been exercising its jurisdiction over those wetlands. I think what you are seeing is this kind of settling out of the process of delineating wetlands.

Mr. HAYES. You, of course, have been listening to the earlier testimony as I have. Since you have mentioned the Corps, let me ask you two questions regarding the Corps. One, what is your position on the Memorandum of Understanding negotiated between EPA and the Corps, or does the agency have an official position on the Memorandum of Understanding?

Mr. MORGENWECK. We are supportive of the Memorandum of Understanding.

Mr. HAYES. Secondly, you have heard testimony earlier, I assume, regarding the appropriate agency for administration. The suggestion made by a previous witness is that the Corps is the appropriate agency with its experience. Would you agree with that, or would you suggest an alternative, if we move forward in policy making on a broader and grander scale than in the past dealing with wetlands?

Mr. MORGENWECK. It would be hard for me to advocate a change, obviously, from the situation now. The Fish and Wildlife Service represents certain environmental concerns. I think that if, in its wisdom, Congress decided to change that, so that there was one agency responsible—it would be hard for me to choose that agency.

There are certain characteristics of that agency, regardless of which one might be chosen, that are essential. It would have to have a lot of technical expertise in wetlands, in wetland delineation, and in understanding wetland functions and values. They would also have to have a good grasp of mitigation, and clearly understand the situation that the development community finds itself in.

I think that regardless of whether it would be the Corps of Engineers if the situation remains the same, or some other agency is chosen, these kinds of characteristics it should have. These characteristics plus some reasonableness, would be necessary.

Mr. HAYES. Let me tell you my experience, without any prejudice or praise for either of the agencies. What I get involved with from the standpoint of people who are either landowners or land users, or whether they are just concerned citizens, in my home state, is that unlike a basketball game, there is no senior official. They have to deal with eight different people, at eight different times.

When you watch the tournament start, when you see somebody call a foul, and somebody says no foul, somebody has the power to rule. They don't hold the game up for three years. I think what has happened to those who are landowners in the business community, is they say that somebody has to make the call. Somebody has to take the responsibility, and someone has to either agree with environmental concerns or agree in the case on the particular project, but somebody has to act.

So I suggest to you that maybe there is a third ground, rather than saying which agency, we ought to be talking about mechanisms, but somehow placing a burden of time, at some point, time itself becomes the greatest adversary. Especially as I mentioned earlier, if you take a look at two different kinds of wetlands problems, where an action and time constraints may not be important to loss, and others where the lack of action directly results in loss.

Would it be an insurmountable task, do you think, to become specific enough to make those kinds of distinctions and to create a mechanism, perhaps for the one that is a different mechanism? And to have someone call the shots, someone to say which categories it falls into, and proceed accordingly?

Mr. MORGENWECK. Right now, the Corps of Engineers takes our advice, then decides to issue or not issue a permit and EPA has the power to veto. So there is the ultimate official with the striped shirt and whistle. The question you raise is one of timeliness, and it is an important consideration. Time is money. It is whether you are on the Government side or on the side of the person building the development. Sometimes perhaps those of us on the Government side do not act that way. That is not fair to the development community.

I believe that we have to think about timeliness; we have to think about getting these things done on time. Likewise, there is a responsibility in the development community to provide the information that is required to make a decision. I know that, of the 11,000 permits that we typically review—one of our most difficult situations is getting information in some cases.

So there is certainly a responsibility on both sides.

Mr. HAYES. My concerns as I say, is that there is a second category, also, where there is not a developer that is the problem. The problem is 50 years ago something happened in the Mississippi River. So it is a matter of the information that has to be gained through studies, not through provided materials as the gentleman earlier was speaking of the project in California.

But leaving all those aside, the time becomes an enemy not so much for business or for environmentalists, time is the enemy to the coast of a State like Louisiana, where doing nothing is causing the 40 square mile loss a year.

I can easily distinguish that from the California project, where I would have an entirely different view of a State where zoning takes three years. There are very good reasons that I don't need to interfere with or argue with. I am just saying that we ought to recognize that there is a difference in those two situations and reflect that in the kind of statute and would the Agency have an objection to such a distinction being made?

Mr. **Morgenweck**. Mr. Chairman, I obviously have not had a chance to think about all of the ramifications, but on the face of it, it makes good sense. Just recently someone said happily to me, "Well, the Louisiana coastal loss is down from 55 square miles to 39 sq. miles per year."

The problem was that we had already lost so much of it that the rate is dropping because it is now gone. I think you are right. Time is really of the essence and we have to take action to try to stem the tide and turn these forces around, both man-made and natural.

Mr. **Hayes**. I didn't mean to monopolize the time. Let me turn it over to the gentleman from Florida, Mr. Grant.

Mr. **Grant**. Thank you, Mr. Chairman.

We have heard a lot at these hearings from individuals, particularly from State officials, about the delineation manual that you have. These State officials, some anyway, have complained that the definitions have been expansive, that they have enlarged the scope of your jurisdiction. Do you care to comment on that?

Mr. **Morgenweck**. Yes, again, I believe that the wetlands definition has not changed at all. As a matter of fact, the definition that is used in the delineation manual is the one that is used in the Clean Water Act. From a definitional standpoint, I do not believe there has been any change.

Mr. **Grant**. There has been no change in your agency, is that right?

Mr. **Morgenweck**. That's correct.

Mr. **Grant**. How about EPA and the Corps?

Mr. **Morgenweck**. It is hard for me to comment on that, and I might ask Mr. Muir to fill in a little bit.

I think, again, the benefit of the manual is that it creates greater consistency in wetland delineation calls. Consistency is one of the concerns of the development community, and was one of our goals in developing the delineation manual, so that everybody knows up front what is and what is not a wetland.

The problem we have is that, while this new manual provides that consistency, we have been working in a situation where wetland delineations have been inconsistent in the past. So now there are some places, perhaps, that should have been regulated before that were not, but now, under a consistent application of wetlands delineation, they would be.

Mr. **Muir**. If you have an opportunity to look at the opening pages of the manual, you will see that there are three definitions actually contained in the front of the manual. That includes the Clean Water Act definition, in the 404(b)(1) guidelines, the definition the Soil Conservation Service uses, and a reference to the Fish and Wildlife Service definition.

These definitions do not vary significantly among the agencies, and they have not been changed in any fashion as a result of the manual. What the manual provides is a technical basis for delineation. It utilizes those definitions as they have been utilized in the past.

Mr. **Grant**. How big is that manual? How many pages?

Mr. MUIR. About 90 pages.

Mr. GRANT. Basically that is a formula for describing what wetlands are, is that right?

Mr. MUIR. It is a technique for determining jurisdictional delineation of wetlands. It is technical in its orientation.

Mr. GRANT. I have read it. I would have to say it is also very intimidating, very frightening to an individual landowner that comes up against that. You have to understand what that means to them.

Do you have summary sheets delineating the classifications of wetlands for each of the states?

Mr. MUIR. Yes. The Fish and Wildlife Service has a classification of wetlands which describes the major wetland types throughout the country.

Mr. GRANT. Do you have those by state?

Mr. MUIR. Not by State. We do have regionally based information that describes the wetland types, and some status and trends information in some portions of the country, including the mid-Atlantic states and California.

Mr. GRANT. Do you have it by acreage, by region?

Mr. MUIR. There have been some reports generated by the Fish and Wildlife Service in cooperation with some other agencies that describe the types of wetlands and characterizes some regions. They also reported on the status and trends of wetlands.

For example, there is a document on the mid-Atlantic States that indicates the kind of wetlands that are present in the United States, and the amount of loss that those States have experienced. We are compiling that information and will be able to provide information on a State-by-State basis later this year, based on the information we have been able to develop through the national wetlands inventory.

Mr. GRANT. How many acres are in wetlands in the United States?

Mr. MUIR. Presently? Roughly 100 million acres exist, and approximately twice that amount when it was settled.

Mr. GRANT. How do you know that there are 100 million if you can't tell me how many there are by each State or region?

Mr. MORGENWECK. We have a statistical sampling of wetlands in the United States. We have set out some 3,600 plots around the United States, and by sampling these; that is, to go back periodically and review each of these sample plots, we get a statistical sampling of whether wetlands are increasing or decreasing by wetland type. We have historical information from the Department of Agriculture and other sources that tells us that we had somewhere in the neighborhood of 215 to 226 million acres of wetlands at the time that European man arrived on the continent.

Mr. GRANT. I see. But you don't have it broken down by States, by acres, and you don't have the acreage by region, just a statistical sample that you think might apply?

Mr. MORGENWECK. Yes, sir. Let me see if I can make more sense out of that. First of all, we have statistical numbers on a nationwide basis. However, that does not break down to State-by-State gains and losses because we would have to have many more samples.

Mr. GRANT. Could you just by region——

Mr. **Morgenweck**. So we do have good national numbers on wetlands gains and losses. Then we have a report that is due to Congress at the end of April based on existing sources of information on a State-by-State basis where we obtained information on how many acres of wetlands were in those States at the time that European man arrived, roughly in the 1780s, and then what percentage of acreage has been lost by the 1980s.

But that is based on whatever source of information we could find. It is not a statistical treatment, and as a result, it is open to a certain amount of speculation.

Mr. **Grant**. It's a guess?

Mr. **Morgenweck**. Yes, it is an informed guess.

Mr. **Grant**. You said that between the mid-1950s and the mid-1970s that we lost 9 million acres of wetlands, and that 87 percent of that was because of agricultural development. How did you make that guess?

Mr. **Morgenweck**. What you just cited is not a guess. That is based on the statistical sample between the 1950s and the 1970s and is based on the 3,600 plots we have on a nationwide basis. We feel very comfortable with those numbers, that we had the 9 million acre loss of wetlands.

Mr. **Grant**. I find a little confusion, too—you know how many acres there were when Columbus got here, but you don't know for sure how many there are this year. I have to tell you, it bothers me just a little bit.

Mr. **Morgenweck**. Our best estimate, when Columbus got here, was somewhere in the neighborhood of 215 to 226 million acres. Obviously, since there was no survey at the time, it is an informed estimate based upon the scientific literature that we have compiled over the years.

We do have good statistical numbers as to what has happened on a nationwide basis between the 1970s and the 1950s. At the end of this fiscal year, we will be able to tell you again statistically what has happened between the mid-1970s and the mid-1980s, during the time we have had regulations and controls on wetlands.

Mr. **Grant**. Did you get that from one of the NASA overflights, or something?

Mr. **Morgenweck**. It is based on aerial photography. We are using NASA high-altitude photographs.

Mr. **Grant**. But you wouldn't have to do that by sampling, would you? You could do that accurately, couldn't you?

Mr. **Morgenweck**. The cost would be tremendous. This way, on a national basis we can do it for about $1,400,000. If we sampled all of the United States, it would be much, much more expensive than that.

Mr. **Grant**. What percentage would fall into these classifications—did you say you didn't have it by classification?

Mr. **Morgenweck**. We do have it by wetlands classification, yes.

Mr. **Grant**. What percentage—do you have those available?

Mr. **Morgenweck**. Yes, it is available. I do not know the numbers offhand, but I have a report that provides it.

Mr. **Grant**. Would you provide that for the record?

Mr. **Morgenweck**. I would be happy to.

[Two U.S. Fish and Wildlife Service reports on current status and trends of wetlands follow:]

INFORMATION FOR WATER RESOURCE SUBCOMMITTEE—MARCH 13, 1990 HEARING—WETLANDS

Enclosed are reports published by the Fish and Wildlife Service which document trends in wetlands nationally and regionally. These trends cover a twenty period from the 1950's to the 1970's. The two documents are: (1) Status of Wetlands and Deepwater Habitats; and (2) Wetlands of the United States: Status and Trends.

An update of the national report on wetlands status and trends is due to the Congress by September 30, 1990 and at subsequent ten-year intervals.

A breakdown (by State) of percentage wetlands loss since the 1780's is due to Congress by April 30, 1990.

STATUS AND TRENDS OF

WATER HABITATS

IN THE CONTERMINOUS UNITED STATES, 1950's TO 1970's

STATUS AND TRENDS OF
WETLANDS AND DEEPWATER HABITATS
IN THE CONTERMINOUS UNITED STATES, 1950's TO 1970's

April 1983

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80523

cover: Lake Drummond, Virginia (Lacustrine)
left: Chambers Lake, Colorado (Lacustrine)

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HIGHLIGHTS

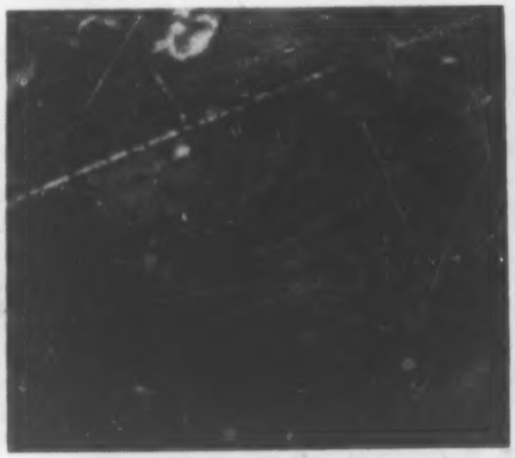
Total acreage of wetlands and deepwater habitats in the 48 conterminous United States in the 1950's was 179.5 million acres. In the 1970's it was 171.9 million acres, a net loss of 7.6 million acres. Average annual net loss for the 20-year period was 380 thousand acres.

There were important gains in deepwater habitats. There were 71.3 million acres of deepwater habitats in the 1950's and 72.9 million acres in the 1970's, a net increase of 1.6 million acres. Average annual net gain was 78 thousand acres. Lacustrine deepwater habitats (lakes) had a net national gain of 1.4 million acres, most of which came from nonagricultural and nonurban areas due to the construction of lakes and reservoirs. Estuarine subtidal deepwater habitats (bay bottoms) increased by 200 thousand acres.

There were 108.1 million acres of wetlands in the 1950's and 99.0 million acres in the 1970's, a net loss of over nine million acres. Average annual net loss was 458 thousand acres. Average annual net loss of palustrine wetlands (inland wetlands) was 439 thousand acres, and the remaining loss was from estuarine wetlands (coastal wetlands).

Increases in palustrine wetlands occurred in palustrine open water areas (ponds). There were 2.3 million acres of palustrine open water wetlands in the 1950's. This increased to 4.4 million acres in the 1970's, an average annual net gain of over 100 thousand acres.

Major losses in palustrine wetlands occurred in palustrine vegetated wetlands. There were 99.8 million acres of palustrine vegetated wetlands in the 1950's and 88.8 million acres in the 1970's, an average annual net loss of 553 thousand acres. Losses from palustrine forested wetlands (swamps) accounted for 300 thousand acres of average annual net loss, while palustrine emergent wetlands (marshes and wet meadows) accounted for an average annual net loss of 234 thousand acres.



left: Chesapeake Bay (Estuarine Subtidal)
right: Infrared photograph showing mosquito ditching in New Jersey

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left: Coastal Florida (Estuarine Intertidal Forested and Scrub/Shrub)

CHAPTER ONE
INTRODUCTION

The United States Fish and Wildlife Service has major responsibility for the protection and proper management of migratory and endangered fish and wildlife and their habitat. In 1974 the U.S. Fish and Wildlife Service directed its Office of Biological Services to design and conduct an inventory of the nation's wetlands. The mandate was to develop and disseminate a technically sound, comprehensive data base concerning the characteristics and extent of the nation's wetlands. The purpose of this data base is to foster wise use of wetlands by providing the information needed to make sound decisions. To accomplish this, principles and methods pertaining to all aspects of wetland inventory were assimilated and developed by the newly formed National Wetlands Inventory Project.

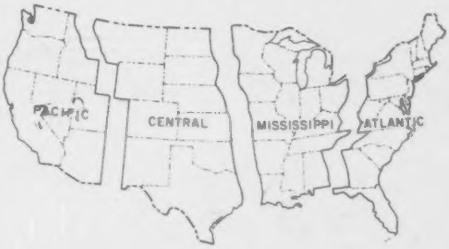
By 1979, it was clear that two very different kinds of information were needed. First, national statistics on the current status and trends of wetlands were needed in order to provide information for development or alteration of federal programs and policies. Secondly, detailed wetland maps for geographic areas of critical concern were needed for site-specific decisions. Included are such areas as coastlines, the Great Lakes and prairie potholes regions, and floodplains of major rivers.

In order to obtain national statistics, the U.S. Fish and Wildlife Service instituted a study in 1979 called "Statistical Analysis of Wetland Gains and Losses Over the Past 20 years in the Conterminous United States." The National Wetlands Inventory Project, assisted by an interagency group of statisticians from the Fish and Wildlife Service, Forest Service, Soil Conservation Service and the Corps of Engineers, developed and awarded a competitive procurement to construct a statistical design for a national survey which can be intensified to obtain reliable estimates for areas such as individual states. Data acquisition and generation were done by the National Wetlands Inventory Project.

This study documents natural and man-induced wetland and deepwater habitat gains and losses in the 48 conterminous United States between the mid-1950's and mid-1970's. It does not reveal gains or losses prior to the mid-1950's or after the mid-1970's. While it provides estimates of the abundance of the nation's wetlands and deepwater habitats, it does not provide information on their quality. This report presents significant findings at the national level.

left: Seney National Wildlife Refuge, Michigan (Lacustrine)

FLYWAYS OF THE UNITED STATES



CHAPTER TWO

CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS

National estimates of status and trends were needed for several kinds of wetlands and deepwater habitats. The classification and categories used are described by Cowardin, **et al.** (1979). Groupings of categories were made to accommodate 1) the special interests of the study and 2) the detail to which available aerial photography could be interpreted.

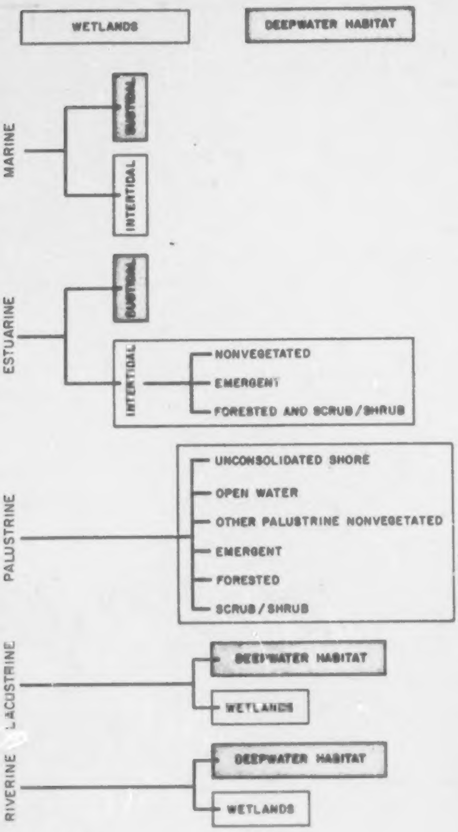
In general terms, wetland is land where saturation with water is the dominant factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface. Technically, wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. Wetlands must have one or more of the following three attributes: 1) at least periodically, the land supports predominantly hydrophytes; 2) the substrate is predominantly undrained hydric soil, and 3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year. Common terms used to describe various wetlands include marshes, swamps, bogs, small ponds, sloughs, potholes, river overflows, mud flats, and wet meadows.

Deepwater habitats are permanently flooded lands lying below the deepwater boundary of wetlands. In saltwater areas, the separation between wetland and deepwater habitat coincides with the elevation of the extreme low water of spring tide. In other areas, the separation occurs at a depth of two meters (6.6 feet) below low water. This is the maximum depth in which emergent plants normally grow.

Within the classification structure that follows, wetlands and deepwater habitats are grouped according to systems. A system consists of environments of similar hydrological, geomorphological, chemical and biological influence. Each system is further

left: White River, Arkansas (Palustrine Forested)**right:** Savannah Wildlife Refuge, South Carolina (Palustrine Emergent)

CLASSIFICATION USED IN THE STUDY


WETLANDS
DEEPWATER HABITAT
MARINE
SUBTIDAL
INTERTIDAL
ESTUARINE
SUBTIDAL
INTERTIDAL
NONVEGETATED
EMERGENT
FORESTED AND SCRUB/SHRUB
PALUSTRINE
UNCONSOLIDATED SHORE
OPEN WATER
OTHER PALUSTRINE NONVEGETATED
EMERGENT
FORESTED
SCRUB/SHRUB
LACUSTRINE
DEEPWATER HABITAT
WETLANDS
RIVERINE
DEEPWATER HABITAT
WETLANDS

divided by the driving ecological force, such as ebb and flow of tide, and by substrate material and flooding regimes, or on vegetative life form.

The **Marine System** extends from the outer edge of the continental shelf to the high water of spring tides or to the boundary of other systems as defined later. **Marine Subtidal** includes that portion that is continuously submerged. Because of relatively small expected change in this portion, it was not included in this study. **Marine Intertidal** includes areas in which the substrate is exposed and flooded by tides, including the associated splash zone.

The **Estuarine System** consists of deepwater tidal habitats and adjacent tidal wetlands which are usually semi-enclosed by land, but have open, partially obstructed, or sporadic access to the open ocean and in which ocean water is at least occasionally diluted by fresh water runoff from the land. Offshore areas with typically estuarine plants and animals, such as mangroves and oysters,

below: Coastal Oregon (Marine Intertidal)

are also included. **Estuarine Subtidal** is that portion that is continuously submerged (considered deepwater habitat), while **Estuarine Intertidal** is the portion exposed and flooded by tides including the associated splash zone. For the purposes of this study, **Estuarine Intertidal** wetlands are shown by the following groups: **Nonvegetated, Emergent, Forested** and **Scrub/Shrub. Nonvegetated** contains no emergent vegetation but does include vegetation in the form of aquatic beds, while **Emergent** contains primarily those erect, rooted herbaceous plants typically found in wet environments. **Forested** is characterized by the presence of trees, and **Scrub/Shrub** includes areas dominated by shrubs and small or stunted trees.

The **Lacustrine System** includes wetlands and deepwater habitats situated in

left: Florida Everglades (Estuarine Intertidal Forested and Scrub/Shrub) **below:** Rabbit Island, Louisiana (Estuarine Intertidal Emergent)

topographic depressions or dammed river channels. Each area must exceed 20 acres or have depths in excess of two meters or have an active wave-formed or bedrock shoreline feature. The **Lacustrine System** consists of open water (considered deepwater habitat) and associated wetlands.

The **Riverine System** includes wetlands and deepwater habitats contained within a channel. There was little interest (because of small expected net changes) in the **Riverine System**. It was included in **Other Surface Area.**

The **Palustrine System** includes all nontidal wetlands not included within any of the other four systems. There are no deepwater habitats included. For this study, the **Palustrine** wetlands are shown by the following groups: **Unconsolidated Shore, Open Water, Other Palustrine Nonvegetated, Emergent, Forested** and **Scrub/Shrub. Unconsolidated Shore** includes wetlands generally having unstable substrates with less than 75 percent cover of stones, boulders or bedrock, and little or no vegetation. **Open Water** includes small

above: Cache La Poudre River, Colorado (Riverine) **left:** Apalachicola, Florida (Palustrine Forested) **below:** Eastern Maine (Palustrine Scrub/Shrub)

inland open water bodies that are not part of the **Lacustrine System. Other Palustrine Nonvegetated** includes other inland wetlands with little or no vegetation other than aquatic beds, and the remaining terms are defined as they were under the **Estuarine System.**

In addition to **Other Surface Area,** two more categories were used in the study. These are **Urban** and **Agriculture;** and, together with **Other Surface Area** (forests, rangeland, etc., not qualifying as wetland), they account for all other areas not considered wetlands or deepwater habitats.

This is only a brief discussion of the classification used in the study. It is difficult to differentiate the categories further without introducing highly technical terms. For those interested in detailed, exact definitions, the descriptions presented by Cowardin, **et al.** (1979) are available.

left: Highland County, Virginia (Palustrine Open Water) **below:** Southern Virginia (Unconsolidated Shore)

CHAPTER THREE

SURVEY PROCEDURE

The objective of the study was to develop statistical estimates of acreage for categories of wetlands and deepwater habitats for the lower 48 states during the 1950's, the 1970's and the change for the period. A survey was designed to develop national statistics for the 1970's that will, on the average, have a probability of 90 percent that estimated totals are within 10 percent of the true totals, by category.

The sampling design and data compilation procedures were developed to generate flyway and state estimates also. Although these estimates are less reliable, they provide a basis for designing and intensifying flyway or state studies to obtain precise estimates.

A stratified random sample was used with the basic strata being formed by state boundaries and the 35 physical subdivisions described by E.H. Hammond (1970). Additional strata specific to the study are special coastal strata encompassing the Marine Intertidal category and Estuarine System and other strata encompassing the Great Lakes. This resulted in over 200 strata for the study

Sample units were allocated to strata in proportion to the expected amount of wetland and deepwater habitat acreage as estimated by earlier work (including Shaw and Fredine, 1956). A total of 3635 sample units were used in the study.

Each sample unit is a four-square mile area, two miles on each side. After the units were selected at random within strata and plotted on U.S. Geological Survey topographic maps, aerial photography was obtained for the 1950's and 1970's. The majority of the 1950's photography was 1:20,000 scale black and white and for the 1970's it was 1:40,000 black and white. Scales were adjusted using stereo zoom transfer scopes. The units were photointerpreted in entirety for the 1950's and the changes were photointerpreted on the 1970's photos. All wetland and deepwater habitat changes were marked as to cause, either natural or human induced. The photointerpreted data from each unit were then prepared for computer analysis. Several quality control checks were routinely made to eliminate errors.

Photointerpretation and data compilation were completed in July, 1982.

left: Cambridge, Maryland (Estuarine Intertidal Emergent) **right:** Central Massachusetts (Palustrine Emergent)

CHAPTER FOUR
RESULTS

Interpretation of Results

Estimates produced include proportions of area and their standard errors, acreages with standard errors, and coefficients of variation. As mentioned earlier, the major objective of the study was to obtain national statistics but estimates were compiled for flyways, states and even for areas within individual states. Many estimates, especially at the state level, are not considered reliable enough to recommend their use for making decisions. An indication is given of the reliability of each estimated acreage in the tables included in this report. The standard error of each entry expressed as a percentage of the entry (SE%) is given in parentheses. Reliability can be stated generally as "we are 68 percent confident that the true value is within the interval constructed by adding to and subtracting from the entry the SE%/100 times the entry." For example, if an entry is one million acres and the SE% is 20, then we are 68 percent confident that the true value is between eight hundred thousand and 1.2 million acres. An equivalent statement for 95 percent confidence can be made by adding and subtracting twice the amount to and from the entry.

It is easy to see that a large SE% indicates low reliability, if any, in the estimate. In fact, if the SE% is 50 or greater, we cannot even say that we are 95 percent confident that the true value is not zero.

This discussion on reliability is meant to aid in interpretation of the study results. It was expected that only certain estimates would be precise enough to use for national planning. However, it was also anticipated that future intensification of sampling might be carried out to provide reliable results for selected critical areas. For this reason, estimates were made even for areas within individual states. Even though those results are not included in this report, they are available for planning future intensified studies.

left: Eastern Massachusetts (Palustrine Emergent)

The intent was for the period of study to be from the 1950's to the 1970's. The median years of the photography are 1954 and 1974, with over 98 percent of the photo coverage within five years of the median years. The median and mode interval is 20 years, and the average interval is 20.0 years. Thus, the results should be interpreted in terms of a 20-year interval.

Estimates for the 1950's, 1970's and change during the period were produced for the categories described in Chapter Two. These estimates are given in Table 1. Totals for columns are estimates of total acreage by category for 1974. Row totals (the extreme right column) are estimates of total acreage by category for 1954. Entries are interpreted as in the following examples (all from the ninth row or column of Table 1):

- 46,299.4 thousand acres classified as Palustrine Forested in 1954 was again classified Palustrine Forested in 1974.
- 6,214.5 thousand acres classified as Palustrine Forested in 1954 had changed to Agriculture by 1974.
- 1,929.6 thousand acres classified as Palustrine Scrub/Shrub in 1954 had changed to Palustrine Forested by 1974.
- The estimate of Palustrine Forested area in 1954 is 55,707.4 thousand acres.
- The estimate of Palustrine Forested area in 1974 is 49,713.4 thousand acres.
- The estimate of net change in Palustrine Forested area between 1954 and 1974 is -5,994.0 thousand acres.

Several of the categories in Table 1 were grouped based on physical, chemical and biological similarities and are presented in Table 2. Groupings in Table 2 include the following:

- **Estuarine Intertidal Vegetated** includes Estuarine Intertidal Emergent wetlands and Estuarine Intertidal Forested and Scrub/Shrub wetlands.
- **Estuarine wetlands** includes Estuarine Intertidal Vegetated wetlands and Estuarine Intertidal Nonvegetated wetlands.

left: Atlantic Coast (Estuarine Intertidal Emergent) **below:** Southern Minnesota (Unconsolidated Shore)

above: Wilmington, North Carolina (Palustrine Scrub/Shrub) **right:** Wallops Island, Georgia (Estuarine Intertidal Emergent) **below:** Coastal Florida (Estuarine Intertidal Forested and Scrub/Shrub)

- **Estuarine** (estuarine wetlands and deepwater habitats) includes Estuarine wetlands and Estuarine Subtidal, a deepwater habitat.
- **Palustrine Nonvegetated** includes Palustrine Unconsolidated Shore wetlands, Palustrine Open Water wetlands and Other Palustrine Nonvegetated wetlands.
- **Other Palustrine Vegetated** includes Palustrine Forested wetlands and Palustrine Scrub/Shrub wetlands.
- **Palustrine Vegetated** includes Other Palustrine Vegetated wetlands and Palustrine Emergent wetlands.
- **Palustrine wetlands** includes Palustrine Nonvegetated wetlands and Palustrine Vegetated wetlands.
- **Deepwater habitats** includes Estuarine Subtidal deepwater habitats and Lacustrine deepwater habitats.
- **Estuarine and Palustrine wetlands** includes Estuarine wetlands and Palustrine wetlands.
- **Wetlands and deepwater habitats** includes Marine Intertidal wetlands, Estuarine, Palustrine wetlands and Lacustrine.

Table 1. Area, in thousands of acres, by kind of surface area for the conterminous United States.

CURRENT

ORIGINAL CLASSIFICATION

	MARINE INTERTIDAL	ESTUARINE SUBTIDAL	ESTUARINE INTERTIDAL NON-VEGETATED	ESTUARINE INTERTIDAL EMERGENT	ESTUARINE INTERTIDAL FORESTED & SCRUB/SHRUB	PALUSTRINE UNCONSOLI-DATED SHORE	PALUSTRINE OPEN WATER
MARINE INTERTIDAL	62.1 (19.9)	2.7 (65.0)	1.6 (68.8)	1.5 (46.7)	1.0 (60.0)		
ESTUARINE SUBTIDAL	0.4 (50.0)	14,611.8 (1.6)	64.5 (17.4)	50.8 (35.4)	3.4 (30.2)		
ESTUARINE INTERTIDAL NON-VEGETATED	1.4 (57.1)	58.0 (15.9)	612.6 (11.2)	33.4 (14.1)	9.8 (30.8)		
ESTUARINE INTERTIDAL EMERGENT	3.5 (34.3)	255.0 (10.9)	52.3 (31.2)	3,815.9 (4.4)	31.5 (20.3)		
ESTUARINE INTERTIDAL FORESTED & SCRUB/SHRUB	0.1 (*)	10.8 (26.9)	8.1 (44.4)	10.3 (27.2)	525.7 (15.2)		
PALUSTRINE UNCONSOLI-DATED SHORE	7.6 (32.9)					144.4 (27.8)	37.1 (56.9)
PALUSTRINE OPEN WATER						25.6 (25.0)	1,664.2 (7.4)
OTHER PALUSTRINE NON-VEGETATED						<0.1	6.4 (35.9)
PALUSTRINE FORESTED						11.6 (38.8)	145.5 (8.2)
PALUSTRINE SCRUB/SHRUB						5.3 (66.0)	46.6 (21.0)
PALUSTRINE EMERGENT						171.4 (79.7)	384.9 (10.7)
LACUSTRINE						2.9 (75.9)	51.5 (65.3)
OTHER	10.6 (24.5)	23.9 (38.5)	7.3 (41.1)	9.4 (31.9)	1.4 (42.9)	83.8 (39.1)	2,055.4 (13.3)
TOTAL SURFACE AREA	78.4 (14.0)	14,967.7 (1.5)	746.5 (9.8)	3,922.8 (4.3)	573.0 (14.4)	445.6 (33.2)	4,393.1 (7.7)
CHANGE, 50's TO 70's	-4.0 (57.5)	+200.2 (14.9)	+5.4 (*)	-353.2 (8.3)	-19.1 (93.2)	+152.0 (5.5)	+2,073.2 (2.5)

* Standard error of estimate is equal to or larger than estimate.

CLASSIFICATION

THER USTRINE ON- ETATED	PALUSTRINE FORESTED	PALUSTRINE SCRUB/SHRUB	PALUSTRINE EMERGENT	LACUSTRINE	AGRICULTURE	URBAN	OTHER	TOTAL SURFACE AREA
	30.2 (31.5)				0	0.1 (*)	13.4 (20.1)	82.4 (15.3)
					0.1 (*)	30.3 (27.1)	5.1 (39.2)	14,767.5 (1.9)
					0.6 (66.7)	20.8 (25.5)	3.7 (29.7)	741.1 (9.9)
					8.6 (46.5)	71.7 (19.8)	10.0 (28.0)	4,276.0 (4.2)
					0.3 (66.7)	34.8 (25.3)	1.2 (41.7)	592.1 (13.6)
0	12.5 (65.6)	13.2 (43.9)	40.1 (44.1)	1.0 (70.0)	10.8 (26.9)	7.6 (59.2)	26.9 (42.8)	293.6 (23.0)
8.2 (30.5)	37.8 (25.7)	46.9 (33.0)	364.7 (13.2)	8.4 (35.7)	112.0 (14.1)	24.3 (15.6)	27.6 (24.6)	2,319.9 (6.5)
60.2 (31.9)	1.0 (60.0)	0.2 (50.0)	11.4 (40.4)	0.1 (*)	2.9 (55.2)	2.8 (71.4)	3.9 (94.9)	90.9 (25.2)
5.9 (33.9)	46,299.4 (3.7)	1,237.0 (10.8)	952.5 (11.4)	223.1 (37.3)	6,214.5 (11.0)	372.9 (9.2)	243.9 (20.7)	55,707.4 (3.7)
2.7 (55.6)	1,929.6 (8.0)	7,367.9 (15.2)	467.7 (23.0)	46.9 (39.0)	952.6 (16.4)	128.0 (17.0)	48.5 (22.6)	10,998.2 (11.0)
15.6 (59.0)	1,002.0 (9.3)	1,394.2 (11.3)	24,493.4 (20.3)	345.5 (20.3)	4,552.8 (13.0)	424.3 (19.7)	323.6 (16.4)	33,112.6 (15.7)
15.3 (88.2)	8.5 (31.8)	12.0 (32.5)	283.5 (19.9)	56,038.9 (12.5)	128.7 (54.5)	18.3 (39.9)	3.1 (64.5)	56,562.7 (12.4)
23.8 (43.7)	419.6 (16.2)	537.5 (37.9)	1,807.3 (11.3)	1,257.7 (41.6)	1,794,642.2 (0.5)			1,800,879.9 (0.5)
131.8 (23.4)	49,713.4 (3.6)	10,611.1 (12.5)	28,441.4 (17.5)	57,923.6 (12.1)	1,808,475.9 (0.5)			1,980,424.3 (0)
+40.9 (39.9)	-5,994.0 (3.7)	-387.1 (56.7)	-4,671.2 (5.2)	+1,360.9 (34.1)	+7,596.0 (7.0)			0 (0)

Table 2. Area, in thousands of acres, by selected combinations of surface area groups for the conterminous United States.

CURRENT

ORIGINAL CLASSIFICATION	MARINE INTERTIDAL	ESTUARINE SUBTIDAL	ESTUARINE INTERTIDAL NON-VEGETATED	ESTUARINE INTERTIDAL VEGETATED	ESTUARINE WETLANDS	ESTUARINE	PALUSTRINE NON-VEGETATED	PALUSTRINE EMERGENT	OTHER PALUSTRINE VEGETATED
MARINE INTERTIDAL	62.1 (15.9)	2.7 (63.0)	1.6 (68.8)	2.5 (36.0)	4.1 (39.0)	6.8 (33.8)			
ESTUARINE SUBTIDAL	0.4 (50.0)	14,611.8 (1.6)	64.5 (17.4)	54.2 (33.2)	118.7 (18.0)	14,730.5 (1.5)			
ESTUARINE INTERTIDAL NON-VEGETATED	1.4 (57.1)	58.0 (15.9)	612.6 (11.2)	43.2 (14.1)	655.8 (10.7)	713.8 (10.1)			
ESTUARINE INTERTIDAL VEGETATED	3.6 (33.3)	265.8 (10.5)	60.4 (27.6)	4,383.4 (4.2)	4,443.8 (4.2)	4,709.6 (4.1)			
ESTUARINE WETLANDS	5.0 (34.0)	323.8 (9.2)	673.0 (10.7)	4,426.6 (4.2)	5,099.6 (3.9)	5,423.4 (3.8)			
ESTUARINE	5.4 (33.3)	14,935.6 (1.5)	737.5 (9.9)	4,480.8 (4.2)	5,218.3 (3.8)	20,153.9 (0.7)			
PALUSTRINE NON-VEGETATED							1,946.1 (7.1)	416.2 (15.2)	111.6 (20.5)
PALUSTRINE EMERGENT							571.9 (25.1)	24,493.4 (20.3)	2,396.2 (8.5)
OTHER PALUSTRINE VEGETATED							217.6 (8.2)	1,420.2 (11.7)	56,833.9 (3.8)
PALUSTRINE VEGETATED							789.5 (18.4)	25,913.6 (19.2)	59,230.1 (3.8)
PALUSTRINE WETLANDS							2,735.6 (7.5)	26,329.8 (18.9)	59,341.7 (3.8)
LACUSTRINE							69.7 (50.8)	283.5 (19.9)	20.5 (23.9)
DEEPWATER HABITATS									
ESTUARINE & PALUSTRINE WETLANDS									
WETLANDS & DEEPWATER HABITATS									
OTHER	10.6 (24.5)	23.9 (38.5)	7.3 (41.1)	10.8 (28.7)	18.1 (25.4)	42.0 (25.0)	2,163.0 (12.8)	1,807.3 (11.5)	957.1 (22.6)
TOTAL SURFACE AREA	78.4 (14.0)	14,967.7 (1.5)	746.5 (9.8)	4,495.8 (4.2)	5,242.3 (3.8)	20,210.0 (0.7)	4,970.5 (7.5)	28,441.4 (17.5)	60,324.5 (3.6)
CHANGE, 50's TO 70's	-4.0 (57.5)	+200.2 (14.9)	+5.4 (*)	-372.3 (8.4)	-366.9 (6.9)	-166.7 (13.0)	+2,266.1 (2.4)	-4,671.2 (5.2)	-6,381.1 (4.1)

* Standard error of estimate is equal to or larger than estimate.

CLASSIFICATION

PALUSTRINE VEGETATED	PALUSTRINE WETLANDS	LACUSTRINE	DEEPWATER HABITATS	ESTUARINE & PALUSTRINE WETLANDS	WETLANDS & DEEPWATER HABITATS	AGRICULTURE	URBAN	OTHER	TOTAL SURFACE AREA
						0	0.1 (*)	13.4 (20.1)	82.4 (13.3)
						0.1 (*)	30.3 (27.1)	5.1 (39.2)	14,767.5 (1.5)
						0.6 (66.7)	20.8 (25.5)	3.7 (29.7)	741.1 (9.9)
						8.9 (44.9)	106.5 (16.4)	11.2 (25.9)	4,868.1 (4.0)
						9.5 (42.1)	127.3 (14.8)	14.9 (21.5)	5,609.2 (3.7)
						9.6 (41.7)	157.6 (16.0)	20.0 (21.0)	20,376.7 (0.7)
527.8 (12.2)	2,473.9 (6.7)	9.5 (32.6)				125.7 (13.1)	34.7 (20.2)	60.4 (23.3)	2,704.4 (6.4)
26,889.6 (18.8)	27,461.5 (18.4)	345.5 (20.3)				4,552.8 (13.0)	424.3 (19.7)	323.6 (16.4)	33,112.6 (15.7)
58,254.1 (3.8)	58,471.7 (3.8)	270.0 (32.1)				7,167.1 (10.1)	500.9 (8.8)	293.4 (18.7)	66,705.6 (3.7)
85,143.7 (7.4)	85,933.2 (7.3)	615.5 (19.0)				11,719.9 (8.2)	925.2 (11.6)	617.0 (12.9)	99,818.2 (6.5)
85,671.5 (7.3)	88,407.1 (7.1)	625.0 (18.8)				11,845.6 (8.2)	959.9 (11.3)	677.4 (12.2)	102,522.6 (6.3)
304.0 (18.7)	373.7 (20.3)	56,038.9 (12.5)				128.7 (54.5)	18.3 (39.9)	3.1 (64.5)	56,562.7 (12.4)
			70,651.0 (9.9)	493.3 (16.0)	71,144.7 (9.8)	128.8 (54.4)	48.6 (22.6)	8.2 (34.1)	71,330.2 (9.8)
			956.1 (12.7)	93,535.9 (6.7)	94,497.2 (6.7)	11,855.1 (8.2)	1,087.2 (10.1)	692.3 (11.9)	108,131.8 (6.0)
			71,609.7 (9.8)	94,033.2 (6.7)	165,710.7 (2.6)	11,983.9 (8.1)	1,135.9 (9.8)	713.9 (11.6)	179,544.4 (5.3)
2,764.4 (11.6)	4,927.4 (9.9)	1,257.7 (41.6)	1,281.6 (40.8)	4,945.5 (9.9)	6,237.7 (11.0)	1,794,642.2 (0.5)			1,800,879.9 (0.5)
88,765.9 (7.1)	93,736.4 (6.3)	57,923.6 (12.1)	72,891.3 (9.6)	98,978.7 (6.4)	171,948.4 (5.5)	1,808,475.9 (0.5)			1,980,424.3 (0)
-11,052.3 (2.5)	-8,786.2 (3.2)	+1,360.9 (14.1)	+1,561.1 (29.8)	-9,153.1 (3.1)	-7,596.0 (7.0)	+7,596.0 (7.0)			0 (0)

Significant Trends in the Estuarine System

Changes in Estuarine Subtidal Deepwater Habitats (bay bottoms)

The overall net change in Estuarine Subtidal deepwater habitats resulted in a gain of 200 thousand acres.

Some changes occurred between Estuarine Subtidal deepwater habitats and Estuarine Nonvegetated wetlands; however, the net change was small.

Change with Estuarine Vegetated wetlands resulted in a net gain of 212 thousand acres, where 204 thousand acres shifted from Estuarine Intertidal Emergent wetlands (coastal salt marshes) to bay bottoms. The vast majority of this net change occurred in Louisiana (183 thousand acres) with most of the remainder (15 thousand acres) in Florida.

There was a loss of 30 thousand acres from Estuarine Subtidal deepwater habitats to urban development. Over half of this was in the Atlantic Flyway with Florida having almost 11 thousand acres of loss. Louisiana, in the Mississippi Flyway, contributed 10 thousand acres of loss.

Some gain in Estuarine Subtidal deepwater habitats came from areas that originally were land other than urban or agriculture. The net gain was 18 thousand acres, of which 13 thousand acres are in Florida. Some additional gain came from Estuarine Intertidal Forested and Scrub/Shrub wetlands. This net gain was seven thousand acres, all of which occurred in Florida.

Changes in Estuarine Nonvegetated Wetlands

The net change in Estuarine Nonvegetated wetlands was small. The only change of significance was a loss of 21 thousand acres to urban development. Texas, in the Central Flyway, accounted for almost 10 thousand acres of loss and Florida over nine thousand acres.

Changes in Estuarine Vegetated Wetlands

The change in Estuarine Vegetated wetlands resulted in a net loss of 372 thousand acres. Most of this loss (353 thousand acres) was in Estuarine Intertidal Emergent wetlands where 204 thousand acres of the loss was to Estuarine Subtidal deepwater habitats as described earlier.

Most of the 168 (372-204) thousand acres of remaining loss was to urban development which accounted for over 106 thousand acres (the size of a square area almost 13 miles on each side). Two-thirds of this loss was from Estuarine Intertidal Emergent wetlands with the remainder from Estuarine Intertidal Forested and Scrub/Shrub wetlands. The majority of this change of 106 thousand acres occurred in the

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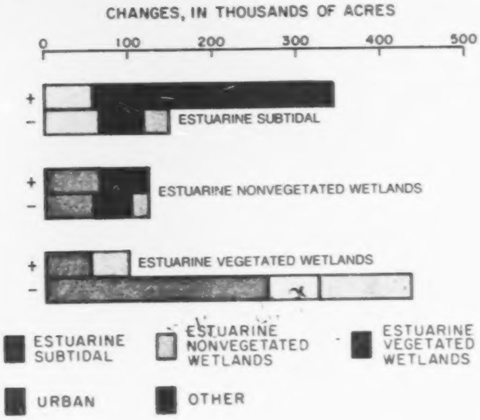
Atlantic Flyway with Florida accounting for 43 thousand acres. Louisiana, in the Mississippi Flyway, lost 34 thousand acres.

Some Estuarine Intertidal Emergent wetlands changed to Estuarine Intertidal Forested and Scrub/Shrub wetlands. The net change was 21 thousand acres of which 18 thousand acres are in Florida. Some additional Estuarine Intertidal Emergent wetland changes were due to shifts to Estuarine Nonvegetated wetlands. The net change was 19 thousand acres.

left: Wachapreague, Virginia (Estuarine Intertidal Unconsolidated Shore)



Significant Trends in the Palustrine and Lacustrine Systems

Changes in Palustrine Nonvegetated Wetlands

The overall net change in Palustrine Nonvegetated wetlands was a gain of 2.3 million acres.

Changes occurred between Palustrine Nonvegetated wetlands and Palustrine Vegetated wetlands. These changes balanced out for the most part.

A significant net gain came from agricultural land. Over 200 thousand acres were gained, mainly in Palustrine Open Water wetlands, due to construction of farm ponds. The vast majority of gains were in the Central and Mississippi flyways.

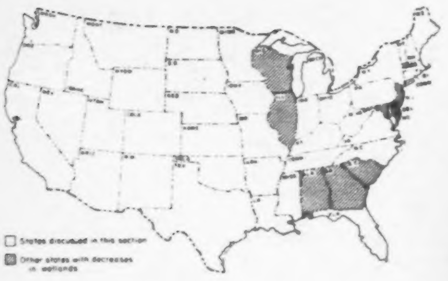
A large net gain, mainly in Palustrine Open Water wetlands, came from lands not originally classified as agriculture or urban. Over 1.7 million acres were gained, mostly due to construction of ponds. Half of these areas were in the Central Flyway.

Another net gain in Palustrine Open Water wetlands came from Palustrine Forested wetlands — 108 thousand acres.

Changes in Palustrine Vegetated Wetlands

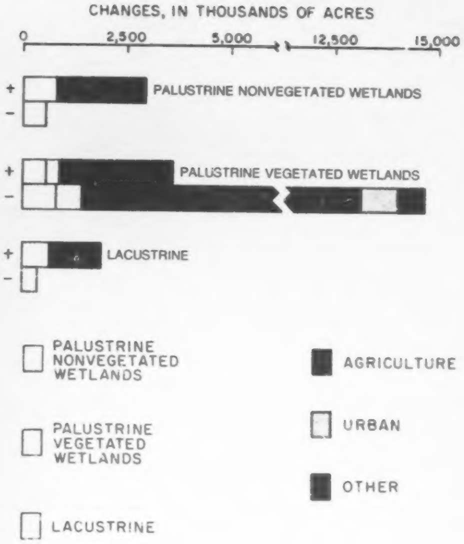
The net change in Palustrine Vegetated wetlands was a loss of 11 million acres. Nearly all the loss was due to agriculture. The overall net loss consists of six million acres of Palustrine Forested wetlands, 4.7 million acres of Palustrine Emergent wetlands, and the remainder from Palustrine Scrub/Shrub wetlands.

Mississippi Flyway losses were dominant in terms of size; in that flyway, a net loss of


☐ States discussed in this section
▨ Other states with decreases in wetlands

NOTE: States not indicated may have important losses not detected by the national survey.

below: Prairie potholes, North Dakota (Palustrine Open Water)


CHANGES, IN THOUSANDS OF ACRES
0
2,500
5,000
12,500
15,000
+
-
PALUSTRINE NONVEGETATED WETLANDS
+
-
PALUSTRINE VEGETATED WETLANDS
+
-
LACUSTRINE
PALUSTRINE NONVEGETATED WETLANDS
PALUSTRINE VEGETATED WETLANDS
LACUSTRINE
AGRICULTURE
URBAN
OTHER

above: Okefenokee Swamp (Palustrine Aquatic Bed and Forested)

4.5 million acres occurred in Palustrine Forested wetlands. The vast majority is along the lower Mississippi River in Louisiana, Mississippi and Arkansas. The next largest loss in the Mississippi Flyway was in Minnesota. Dominant losers of Palustrine Forested wetlands in the Atlantic Flyway are Florida and North Carolina. Large losses in the Central Flyway occurred in South Dakota, North Dakota, Nebraska and Texas. The largest loss in the Pacific Flyway was in California.

In general, the states along the lower Mississippi River lost acreage from Palustrine Forested wetlands, while losses in most other states were predominantly from Palustrine Emergent wetlands.

Net losses to urban development consisted of 367 thousand acres from Palustrine Forested wetlands, 396 thousand acres from Palustrine Emergent wetlands, and 124 thousand acres from Palustrine Scrub/Shrub wetlands. This total, larger than the size of Rhode Island, is concentrated in the Atlantic and Mississippi flyways. The largest loss in the Atlantic Flyway occurred in Florida. Large losses in the Mississippi Flyway took place in Louisiana, Michigan and Minnesota.

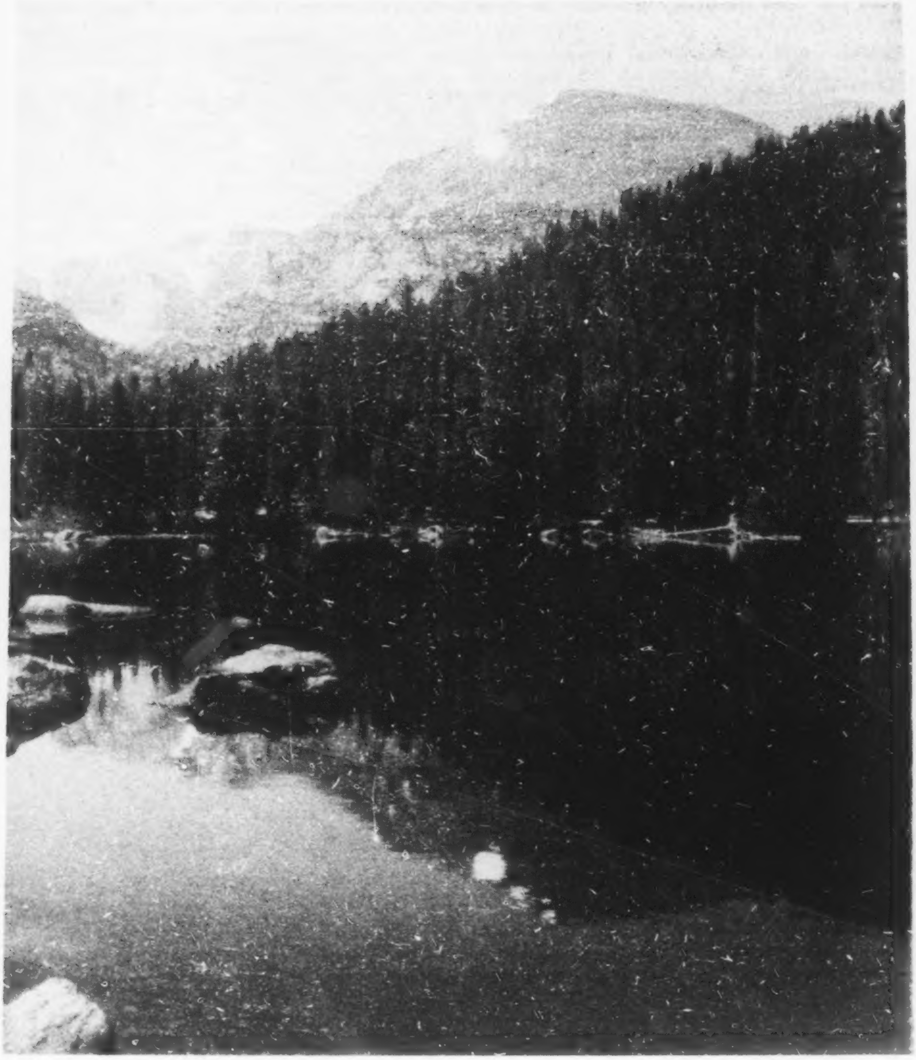
There was a net change of 927 thousand acres of Palustrine Emergent wetlands to Palustrine Scrub/Shrub wetlands and a net change of 693 thousand acres of Palustrine Scrub/Shrub wetlands to Palustrine Forested wetlands.

Net change of Palustrine Emergent wetlands to Palustrine Unconsolidated Shore wetlands occurred on 131 thousand acres, of which 124 thousand acres are in the Central Flyway.

Changes in Lacustrine Deepwater Habitats

The net change in Lacustrine deepwater habitats was a gain of 1.4 million acres.

Most of the gain is the result of construction of lakes and reservoirs on 1.2 million acres of land not considered wetlands, deepwater habitats, urban or agricultural land in the 1950's.



CHAPTER FIVE
IN CONCLUSION

The results reported are based on a designed study of the wetlands and deepwater habitats of the lower 48 states. The results of this report document major net losses of wetlands and provide insights to where these net losses are taking place. The design involved careful measurement of a sample of the nation's surface area. In general, results are meaningful only at the national level or for broad areas. Some of the results, however, have adequate reliability to be useful at flyway and state levels. Intensification of the samples for selected areas in future studies can provide useful results for those areas.

Some findings are very clear and involve large acreages. Huge decreases in wetlands occurred in the lower Mississippi River states of Louisiana, Mississippi and Arkansas. The next largest loss in the Mississippi Flyway was in Minnesota, with losses also occurring in Michigan, Wisconsin, Illinois and Alabama. Dominant losers of wetlands in the Atlantic Flyway are Florida and North Carolina with losses also in Georgia, South Carolina, Maryland, New Jersey and Delaware. Large losses in the Central Flyway occurred in South Dakota, North Dakota, Nebraska and Texas. The largest loss in the Pacific Flyway was in California.

Other changes are also clear, but involve lesser acreages. Importance of change, however, is not necessarily reflected by area alone. Some of the smaller wetlands and deepwater habitats — particularly along the coastline of the United States — are extremely important habitats for plant and animal life.

Very significant increases occurred in large and small open water areas. These newly created habitats were mostly constructed on land not originally classified as agriculture or urban. The importance of these new habitats to fish and wildlife populations is yet to be fully determined.

The vast majority of the loss of Estuarine Intertidal Emergent wetlands occurred in Louisiana. This resulted from a shift to Estuarine Subtidal deepwater habitats. The remaining loss of Estuarine Intertidal Emergent wetlands was to urban development, mostly in Florida and Louisiana.

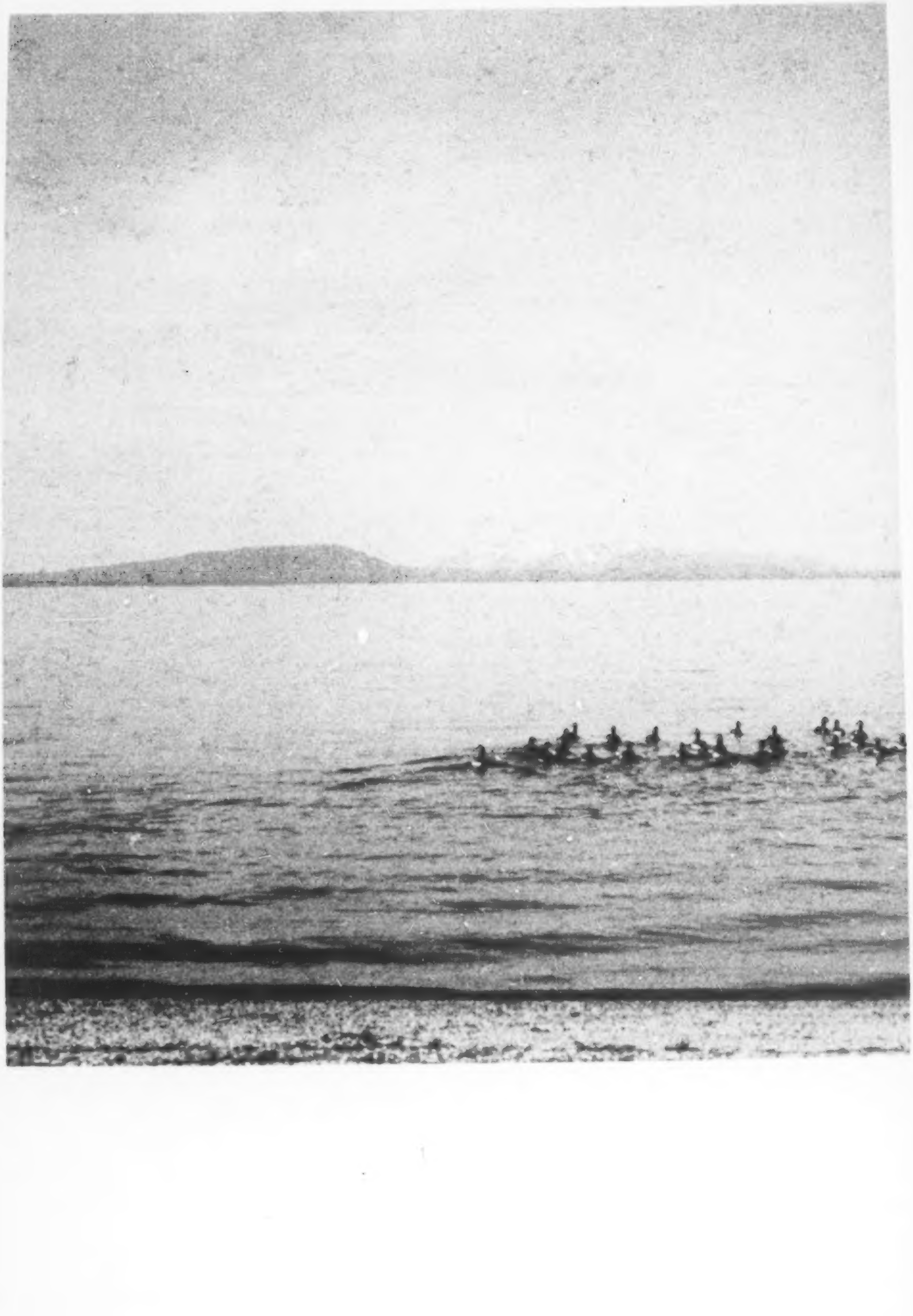
Nearly all the loss of Estuarine Intertidal Forested and Scrub/Shrub wetlands occurred in Florida to urban development.

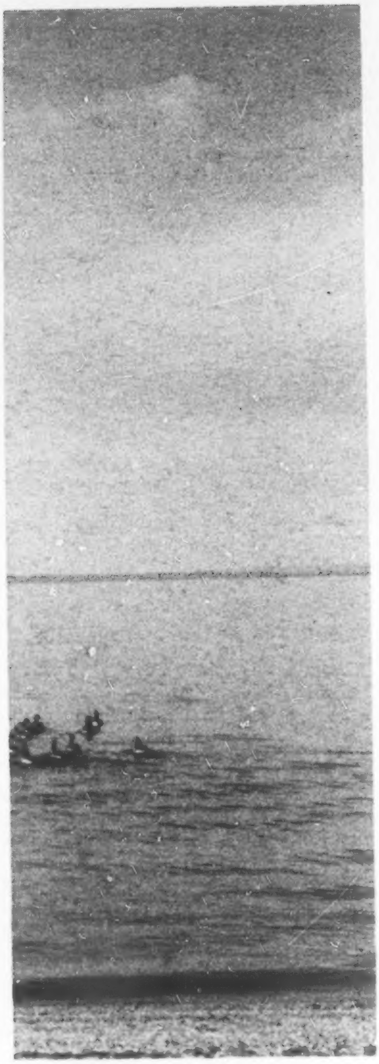
The net loss in Palustrine Vegetated wetlands was 11 million acres; 14 times the size of Rhode Island; twice the size of New Jersey; as large as the combined states of Massachusetts, Connecticut and Rhode Island. Nearly all the net loss was due to agriculture.

This report does not document the significant reduction of quality of many wetlands. Some of the factors that cause this reduction in quality are: canals and inlets that cause changes in water chemistry due to salt water intrusion, mosquito ditching along the Atlantic coast, polluted runoff from adjacent uplands or polluted inflow from rivers and streams, urban encroachment, and dissection by transportation corridors.

Continual monitoring of land use and changes in land use is needed to provide the basis for wise decisions. This report is the result of one such method of monitoring initiated by the U.S. Fish and Wildlife Service. The results included in this report provide wetland information similar to the forest and range information required by the Forest and Rangeland Renewable Resources Planning Act and to soils information required by the Soil and Water Resource Conservation Act. The results can be updated in the future on the schedule required under those Acts.

left: Rocky Mountain National Park, Colorado (Lacustrine)





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left: Yellowstone Lake (Lacustrine)

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The statisticians who worked on this project are **Dr. W.E. Frayer,** a specialist in natural resource survey design and analysis; **Dr. David C. Bowden,** a specialist in sampling design with emphasis on wildlife applications; and **Dr. Franklin A. Graybill,** a past president of the American Statistical Association and an internationally recognized authority on linear models. **Timothy J. Monahan,** a graduate student, assisted in several phases of the study.

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He has been instrumental in organizing national and international conferences on natural resource sampling designs. He has also organized various short courses on sampling, computer use and related quantitative methods.

While working as a research forester at the Northeastern Forest Experiment Station 1962-66, he assisted in developing a data analysis system (FINSYS) for large inventories. The system was subsequently adopted for nationwide use by the U.S. Forest Service. He later completely revised the system for the Forest Service. He modified the system for use in this project.

Timothy J. Monahan is a graduate of the University of Idaho with a B.S. in Forest Resources/Watershed Science. He has worked with the U.S. Fish and Wildlife Service as a biologist conducting instream flow studies for the Upper Colorado River Project. He is currently a graduate research assistant at Colorado State University completing work on a Master of Science degree in Forest Science.

Dr. David C. Bowden is an associate professor of statistics at Colorado State University and a consultant for the Colorado Division of Wildlife. Since 1965, nearly all surveys conducted by the research branch of the Division have either received review comments or received major design input and data analysis supervision from Dr. Bowden. Individual projects have involved winter and spring waterfowl population surveys, direct or indirect census procedures for antelope, deer and elk, questionnaire surveys for statewide harvest of large and small game, creel census surveys of all types and range or vegetation sampling.

Dr. Bowden was a consultant for many projects for the U.S. Fish and Wildlife Service, Denver Federal Center, particularly to the Bird Damage Control Section. These studies involved determining crop damage and treatment effects in a variety of field situations. In addition, he evaluated the design of the survey, "Indices of Predator Abundance in the Western United States" which was performed for the Predator Ecology and Behavior Project.

One major project of Dr. Bowden's involved the review and evaluation for the U.S. Fish and Wildlife Service of their U.S. and Canada May Waterfowl Breeding Ground Survey. The 1974 report was filed with the Migratory Bird and Habitat Research Station at Laurel, Maryland.

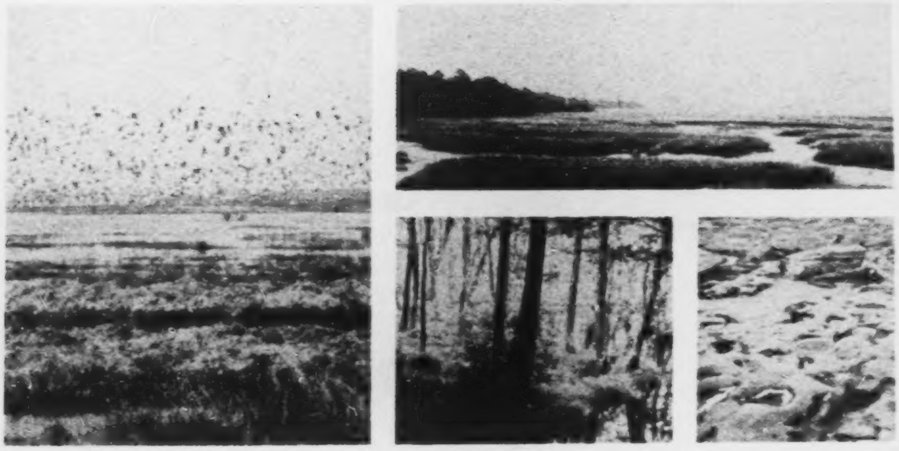
Dr. Franklin A. Graybill is an internationally recognized authority in linear models. He served as president of the American Statistical Association and as editor of *Biometrics*. He has served in official capacities with various professional societies. He is an elected Fellow in the American Statistical Association, the Institute of Mathematical Statistics, and the American Association for the Advancement of Science.

Together with Frayer, Bowden and others, he has conducted research on multilevel (multiphase and multistage) designs for resource inventories.

National Wetlands Inventory

MARCH 1984

Wetlands of the United States: Current Status and Recent Trends



U.S. Department of the Interior

Fish and Wildlife Service

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WETLANDS OF THE UNITED STATES: CURRENT STATUS AND RECENT TRENDS

by

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One Gateway Center
Newton Corner, Massachusetts 02158

MARCH 1984

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Executive Summary

This report identifies the current status of U.S. wetlands and major areas where wetlands are in greatest jeopardy from the national standpoint. It also presents existing regional and national information on wetland trends. The report is divided into six chapters: (1) Introduction, (2) What Is a Wetland?, (3) Major Wetland Types of the United States, (4) Why Are Wetlands Important?, (5) Current Status and Trends of U.S. Wetlands, and (6) The Future of America's Wetlands.

Wetlands include the variety of marshes, swamps and bogs that occur throughout the country. They range from red maple swamps and black spruce bogs in the northern states to salt marshes along the coasts to bottomland hardwood forests in the southern states to prairie potholes in the Midwest to playa lakes and riparian wetlands in the western states to the wet tundra of Alaska.

The Fish and Wildlife Service has developed a scientifically sound wetland definition and classification system to inventory the Nation's wetlands. The bulk of America's wetlands fall into two ecological systems: (1) Estuarine System and (2) Palustrine System. The Estuarine System includes salt and brackish tidal marshes, mangrove swamps and intertidal flats, while the Palustrine System encompasses the vast majority of the country's inland marshes, bogs, and swamps.

Wetlands produce many benefits for society besides providing homes for many fish and wildlife species. Some of the more important public values of wetlands include flood control, water quality maintenance, erosion control, timber and other natural products for man's use, and recreation.

Approximately 215 million acres of wetlands existed in the conterminous U.S (i.e., lower 48 states) at the time of the Nation's settlement. In the mid-1970's, only 99 million acres remained, leaving just 46% of the original wetland acreage. The U.S. wetland resource for the lower 48 states encompassed 93.7 million acres of palustrine wetlands and 5.2 million acres of estuarine wetlands. Wetlands now cover about 5% of the land surface of the lower 48 states. The total wetland acreage for the lower 48 states amounts to an area roughly the size of California.

Between the mid-1950's and the mid-1970's, about 11 million acres of wetland were lost, while 2 million acres of new wetland were created. Thus, in that 20-year interval, a net loss of 9 million acres of wetland occurred. This acreage equates to an area about twice the size of New Jersey.

Annual wetland losses averaged 458,000 acres: 440,000 acres of palustrine losses and 18,000 acres of estuarine wetland losses. This annual loss equals an area about half the size of Rhode Island. Agricultural development was responsible for 87% of recent national wetland losses. Urban development and other development caused only 8% and 5% of the losses, respectively.

The most extensive wetland losses occurred in Louisiana, Mississippi, Arkansas, North Carolina, North Dakota, South Dakota, Nebraska, Florida and Texas. Greatest losses of forested wetlands took place in the lower Mississippi Valley with the conversion of bottomland hardwood forests to farmland. Shrub wetlands were hardest hit in North Carolina where pocosin wetlands are being converted to cropland or pine plantations or mined for peat. Inland marsh drainage for agriculture was most significant in the Prairie Pothole Region of the Dakotas and Minnesota, Nebraska's Sandhills and Rainwater Basin and Florida's Everglades. Between the mid-1950's and mid-1970's, estuarine wetland losses were heaviest in the Gulf states, i.e., Louisiana, Florida, and Texas. Most of Louisiana's coastal marsh losses were attributed to submergence by coastal waters. In other areas, urban development was the major direct man-induced cause of coastal wetland loss. Dredge and fill residential development in coastal areas was most significant in Florida, Texas, New Jersey, New York, and California.

The future of the Nation's wetlands depends on the actions of public agencies, private industry, and private groups and individuals. Recent population and agricultural trends point to increased pressure for converting wetlands to other uses, especially cropland. Increased wetland protection efforts by all levels of government and by private parties are needed to halt or slow wetland losses and to enhance the quality of the remaining wetlands. Major protection options are outlined in the report.

INTRODUCTION

The Fish and Wildlife Service has always recognized the importance of wetlands to waterfowl, other migratory birds and wildlife. Its responsibility for protecting these habitats comes largely from international treaties between the United States and other countries concerning migratory birds and from the Fish and Wildlife Coordination Act. Consequently, the Service has been active in protecting these resources through various programs. The National Wildlife Refuge System was established to preserve and enhance migratory bird habitat in strategic locations across the country. More than 12 million ducks breed annually in U.S. wetlands and millions more overwinter here. Waterfowl banded in North Dakota have been recovered in 46 states, 10 Canadian provinces and territories, and 23 other countries.

Since the 1950's, the Service has been particularly concerned about wetland losses and their impact on fish and wildlife populations. In 1954, the Service conducted the first nationwide wetlands inventory which focused on wetlands important to waterfowl. This survey was performed to provide information for considering fish and wildlife impacts in land-use decisions. The results of this inventory were published in a well-known Service report entitled "Wetlands of the United States," commonly referred to as Circular 39 (Shaw and Fredine 1956).

Since that survey, wetlands have continued to change due to both natural processes and human activities. The conversion of wetlands for agriculture, residential and industrial developments and other uses has accelerated. During the 1960's, the general public in many states became more aware of wetland values and concerned about wetland losses. They began to realize that wetlands provided significant public benefits besides fish and wildlife habitat, especially flood protection and water quality maintenance. Prior to this time, wetlands were regarded by most people as wastelands, whose best use could only be attained through alteration, e.g., draining for agriculture, dredging and filling for industrial and housing developments and filling with sanitary landfill. Scientific studies demonstrating wetland values, especially for coastal marshes, were instrumental in increasing public awareness of wetland benefits and stimulating concern for wetland protection. Consequently, several states passed laws to protect coastal wetlands, including Massachusetts (1963), Rhode Island (1965), Connecticut (1969), New Jersey (1970), Maryland (1970), Georgia (1970) and New York (1972). Several of these states subsequently adopted inland wetland protection legislation: Massachusetts, Rhode Island, Connecticut and New York. Most states with coastal wetlands followed the lead of these northeastern states and passed laws to protect these wetlands. During the early 1970's, the Federal government also assumed greater responsibility for wetlands through Section 404 of the Federal Water Pollution Control Act (later amended as the Clean Water Act of 1977). Federal permits are now required for many types of construction in many wetlands, yet most agricultural and silvicultural activities are exempt.

With increased public interest in wetlands and strengthened government regulation, the Service considered how it could contribute to this resource management effort, since it has prime Federal responsibility for protection and management of the Nation's fish and wildlife and their habitat. The Service recognized the need for sound ecological information to make decisions regarding policy, planning, and management of the country's wetland resources. In 1974, the National Wetlands Inventory Project (NWI) was established. The NWI aims to generate scientific information on the characteristics and extent of the Nation's wetlands. The purpose of this information is to foster wise use of U.S. wetlands and to provide data for making quick and accurate resource decisions.

Two very different kinds of information are needed: (1) detailed maps and (2) status and trends reports. First, detailed wetland maps for geographic areas of critical concern are needed for impact assessment of site-specific projects. These maps serve a purpose similar to the Soil Conservation Service's soil survey maps, the National Oceanic and Atmospheric Administration's coastal geodetic survey maps, and the Geological Survey's topographic maps. Detailed wetland maps are used by local, state and Federal agencies as well as by private industry and organizations for many purposes, including comprehensive resource management plans, environmental impact assessments, permit reviews, facility and corridor siting, oil spill contingency plans, natural resource inventories, wildlife surveys and other uses. Wetland maps have been produced for Hawaii, 30% of the lower 48 states and 6% of Alaska. Present plans are to complete wetland mapping for at least 55% of the conterminous U.S. and 16% of Alaska by 1988. Secondly, national estimates of the current status and trends (i.e., losses and gains) of wetlands are needed in order to provide improved information for reviewing the effectiveness of existing Federal programs and policies, for identifying national or regional problems and for general public awareness. A technical report of these trends has been recently published (Frayer, et al. 1983).

The purpose of this report is to inform government agencies, private industry and organizations, the scientific community, and the general public about the current status and historical trends of U.S. wetlands. It also identifies key regions where wetlands remain in greatest jeopardy and presents management recommendations for improving wetland protection. The Service's study of recent wetland gains and losses provides the national perspective for this report and targets current problem areas. Other studies address regional and historical wetland changes. These sources provide the necessary documentation for presenting a complete picture of trends in America's wetlands and the basis for identifying future problems. While focusing on wetland trends, the report begins with discussions of the concept of wetland, major types of U. S. wetlands and wetland values. This background is essential for understanding the significance of what is happening to the Nation's wetlands. Appendix A provides a glossary of common and scientific names of plants referred to in this report.

WHAT IS A WETLAND?

All of us are familiar with marshes and swamps either through our own observations or readings. The term "wetland," however, may be relatively new to many people. Essentially, wetlands include the wide variety of marshes, swamps and bogs that occur throughout the country. They range from red maple swamps and black spruce bogs in the northern states to salt marshes along the coasts to bottomland hardwood forests in the southern states to prairie potholes in the Midwest to playa lakes and cottonwood-willow riparian wetlands in the western states to the wet tundra of Alaska.

Wetlands usually lie in depressions or along rivers, lakes, and coastal waters where they are subject to periodic flooding. Some, however, occur on slopes where they are associated with groundwater seeps. Conceptually, wetlands lie between well-drained upland and permanently flooded deep waters of lakes, rivers and coastal embayments (Figure 1). Recognizing this, one must determine where along this natural wetness continuum wetland ends and upland begins. Many wetlands form in distinct depressions or basins that can be readily observed. However, the wetland-upland boundary is not always that easy to identify. Wetlands may occur in almost imperceptibly shallow depressions and cover vast acreages. In the Prairie Pothole Region, wetland boundaries change over time due to varying rainfall patterns. In these situations, only a skilled wetland ecologist or other specialist can identify the wetland boundary with precision.

Wetlands were historically defined by scientists working in specialized fields, such as botany or hydrology. A botanical definition would focus on the plants adapted to flooding and/or saturated soil conditions, while a hydrologist's definition would emphasize the position of the water table relative to the ground surface over time. A more complete definition of wetland involves a multidisciplinary approach. The Service has taken this approach in developing its wetland definition and classification system.

The Fish and Wildlife Service's Definition of Wetlands

Prior to conducting an inventory of the Nation's wetlands, the Service had to first define what a wetland is and where along the soil moisture gradient to draw the line between wetland and upland. To do this, the Service enlisted the help of the Nation's leading wetland scientists and selected four of them to develop a new wetlands classification system (Figure 2). The authors represented several disciplines including waterfowl biology, hydrology, wetland ecology and marine biology.

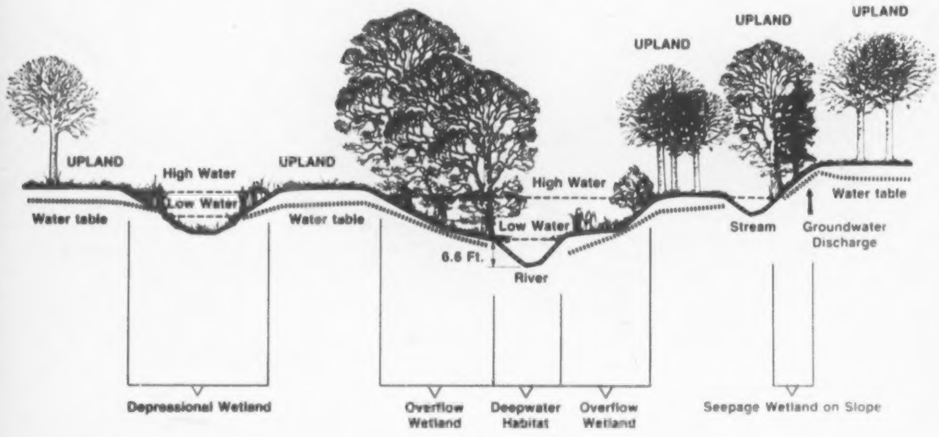
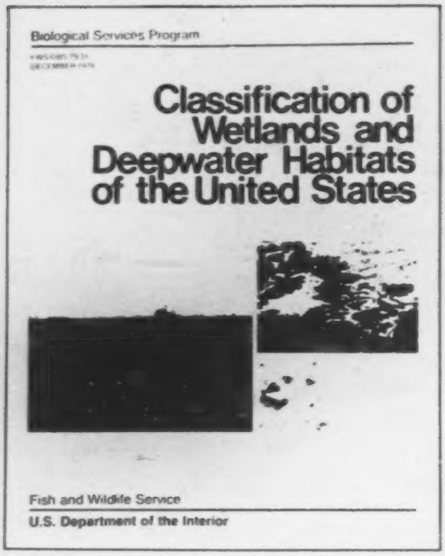


Fig. 1. Schematic diagram showing wetlands, deepwater habitats, and uplands on landscape. Note differences in wetlands due to hydrology and topographic location.



Biological Services Program

Classification of Wetlands and Deepwater Habitats of the United States

Fish and Wildlife Service

U.S. Department of the Interior

Fig. 2. The Fish and Wildlife Service's official wetland classification report.

In developing an ecologically sound definition of wetland, it was acknowledged that "there is no single, correct, indisputable, ecologically sound definition for wetlands, primarily because of the diversity of wetlands and because the demarcation between dry and wet environments lies along a continuum" (Cowardin, et al. 1979). Previous wetland definitions grew out of different needs for defining wetlands among various disciplines, e.g., wetland regulators, waterfowl managers, hydrologists, flood control engineers and water quality experts. The Service needed a definition that would allow accurate identification and delineation of the Nation's wetlands for resource management purposes.

The Service specifically defines wetlands as follows:

> "Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification wetlands must have one or more of the following three attributes: 1) at least periodically, the land supports predominantly hydrophytes; 2) the substrate is predominantly undrained hydric soil; and 3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year." (Cowardin, et al. 1979).

In defining wetland from an ecological standpoint, the Service emphasizes three key attributes of wetland: 1) hydrology — the degree of flooding or soil saturation, 2) wetland vegetation (hydrophytes), and 3) hydric soils. All areas considered wetland must have enough water at some time during the growing season to stress plants and animals not adapted for life in water or saturated soils. Most wetlands also have hydrophytes and hydric soils present. The Service is preparing a list of hydrophytes and the Soil Conservation Service is developing a list of hydric soils to help further define wetland.

It is interesting to note that a similar approach to wetland definition was recently used in a Federal court case in Louisiana to make a legal wetland determination (Scott 1979). In his ruling, the judge decided that the area in dispute constituted wetland according to Section 404 of the Clean Water Act because: 1) records showed that virtually all of the tract was flooded every other year (hydrology criterion), 2) the soil types were classified as wetland soils, with two exceptions where information was inadequate (hydric soil criterion), and 3) vegetation capable of surviving and reproducing in wetlands predominated the site (hydrophyte criterion). Thus, the rationale for using these three key attributes now has legal precedent.

Particular attention should be paid to the reference to flooding or soil saturation during the growing season in the Service's definition. When soils are covered by water or saturated to the surface, free oxygen is usually not available to plant roots. Most plant roots must have access to free oxygen for respiration and growth; flooding during the growing season presents problems for the growth and survival of most plants. In a wetland situation, plants must be adapted to cope with these stressful conditions. If flooding occurs only in winter when the plants are dormant, there is little or no effect on them.

It is important to note that the Service does not include permanently flooded deepwater areas as wetland. Instead, these waterbodies (generally deeper than six feet) are defined as deepwater habitats, since water and not air is the principal medium in which dominant organisms must live.

In summary, the Service has developed a scientifically sound definition of wetland based on the degree of flooding or soil saturation and the presence of wetland plants and/or hydric soils. It is the product of four years of field testing and review by the scientific community. Consequently, the Service's concept of wetland is being widely accepted as the national and international standard for identifying wetland.

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Scott, N.S. 1979. Opinion. Civil Action No. 78-1428. The Avoyelles Sportsmen's League, Inc., et. al. v. Clifford L. Alexander, et. al. U.S. District Court, Western District of Louisiana, Alexandria Division. 20 pp.

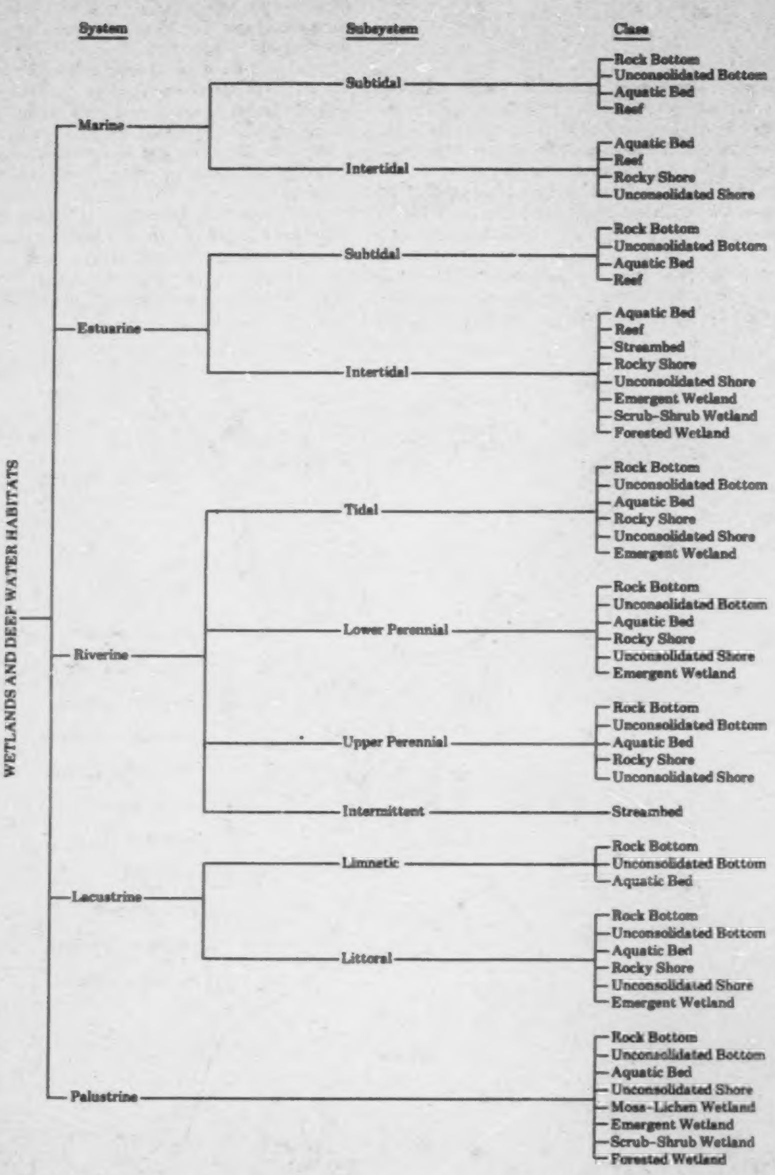
System
Subsystem
Class
WETLANDS AND DEEP WATER HABITATS
Marine
Subtidal
Rock Bottom
Unconsolidated Bottom
Aquatic Bed
Reef
Intertidal
Aquatic Bed
Reef
Rocky Shore
Unconsolidated Shore
Estuarine
Subtidal
Rock Bottom
Unconsolidated Bottom
Aquatic Bed
Reef
Intertidal
Aquatic Bed
Reef
Streambed
Rocky Shore
Unconsolidated Shore
Emergent Wetland
Scrub-Shrub Wetland
Forested Wetland
Riverine
Tidal
Rock Bottom
Unconsolidated Bottom
Aquatic Bed
Rocky Shore
Unconsolidated Shore
Emergent Wetland
Lower Perennial
Rock Bottom
Unconsolidated Bottom
Aquatic Bed
Rocky Shore
Unconsolidated Shore
Emergent Wetland
Upper Perennial
Rock Bottom
Unconsolidated Bottom
Aquatic Bed
Rocky Shore
Unconsolidated Shore
Intermittent
Streambed
Lacustrine
Limnetic
Rock Bottom
Unconsolidated Bottom
Aquatic Bed
Littoral
Rock Bottom
Unconsolidated Bottom
Aquatic Bed
Rocky Shore
Unconsolidated Shore
Emergent Wetland
Palustrine
Rock Bottom
Unconsolidated Bottom
Aquatic Bed
Unconsolidated Shore
Moss-Lichen Wetland
Emergent Wetland
Scrub-Shrub Wetland
Forested Wetland

Fig. 3. Classification hierarchy of wetlands and deepwater habitats, showing systems, subsystems, and classes. The Palustrine System does not include deepwater habitats (Cowardin, et al. 1979).

MAJOR WETLAND TYPES OF THE UNITED STATES

Wetlands occur in every state of the country and due to regional differences in climate, vegetation, soil and hydrologic conditions, they exist in a variety of sizes, shapes and types. Although more abundant in other areas, wetlands even exist in deserts.

The Service's classification system (Cowardin, et al. 1979) groups wetlands according to ecologically similar characteristics. It first divides wetlands and deepwater habitats into five ecological systems: (1) Marine, (2) Estuarine, (3) Riverine, (4) Lacustrine, and (5) Palustrine (Figure 3). The Marine System generally consists of the open ocean and its associated coastline (Figure 4). It is mostly a deepwater habitat system, with marine wetlands limited to intertidal areas like beaches, rocky shores and some coral reefs. The Estuarine System includes coastal wetlands like salt and brackish tidal marshes, mangrove swamps, and intertidal flats, as well as deepwater bays, sounds and coastal rivers. The Riverine System is limited to freshwater river and stream channels and is mainly a deepwater habitat system. The Lacustrine System is also a deepwater dominated system, but includes standing waterbodies like lakes, reservoirs and deep ponds. The Palustrine System encompasses the vast majority of the country's inland marshes, bogs and swamps and does not include any deepwater habitat. Characteristics of the major wetland types in the U.S. are described in the following sections. The discussion focuses on estuarine and palustrine wetlands because they are the most abundant types.

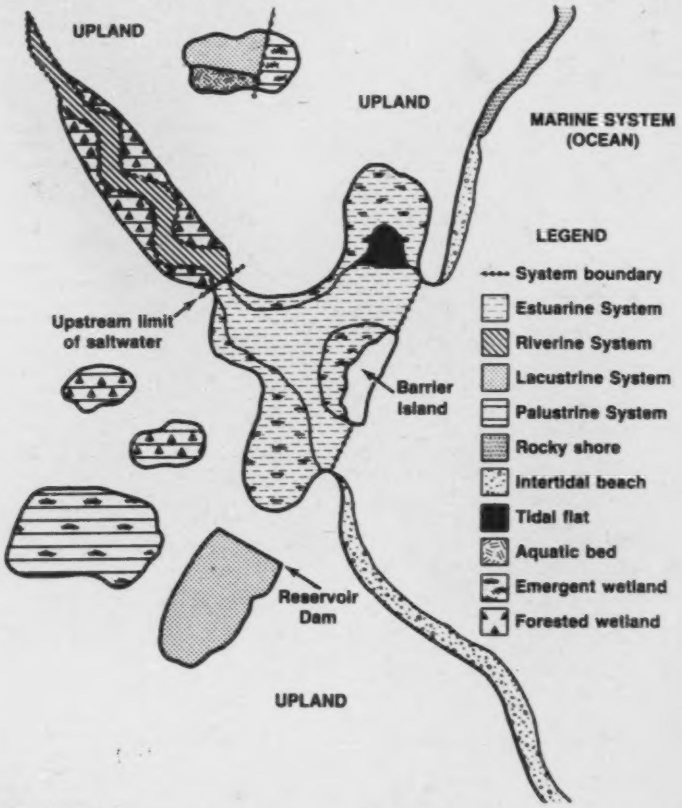
UPLAND
UPLAND
MARINE SYSTEM
(OCEAN)
LEGEND
System boundary
Estuarine System
Riverine System
Lacustrine System
Palustrine System
Rocky shore
Intertidal beach
Tidal flat
Aquatic bed
Emergent wetland
Forested wetland
Upstream limit of saltwater
Barrier Island
Reservoir Dam
UPLAND

Fig. 4. Diagram showing major wetland and deepwater habitat systems.

Estuarine Wetlands

Estuarine wetlands are found along the U.S. coastline and are associated with estuaries or brackish tidal waters. They are represented by three major types: (1) emergent wetland, (2) intertidal flat, and (3) scrub-shrub wetland. Other coastal wetlands include intertidal coral and mollusk reefs, rocky shores, and beaches.

Estuarine Emergent Wetlands

Estuarine emergent wetlands are dominated by grass or grass-like plants (Figure 5). They are commonly called "salt marshes" and "brackish tidal marshes".

Salt marshes characteristically lie behind barrier islands and beaches along all coasts in relatively high salinity waters. They are best represented along the Alaskan, Atlantic and Gulf coasts. Salt marshes are flooded by tides for varying periods depending on elevation and tidal amplitude. Two distinct zones can be observed based on differences in frequency and duration of flooding and associated vegetation: (1) regularly flooded marsh and (2) irregularly flooded marsh (Figure 6). The regularly flooded marsh is flooded and exposed at least once daily by the tides. In New England, this marsh is generally limited to tidal creek banks, while in the Southeast, it is the dominant coastal wetland type covering vast acreages. Along the Atlantic and Gulf coasts, smooth cordgrass dominates the regularly flooded marsh, while on the West coast, California cordgrass prevails. These grasses are among the most productive marsh plants. Lying above the regularly flooded zone, the irregularly flooded marsh is exposed to air for long periods and flooded only at irregular intervals, usually monthly during spring and storm tides. Vegetation in this zone is more varied, including salt hay cordgrass, spikegrass, black grass, alkaligrass, Baltic rush, black needlerush, glassworts, saltworts, sea ox-eye, high-tide bush, reed, bulrushes, asters and switchgrass. On the West coast, Lyngbye's sedge, hairgrass and jaumea are other important species. Salt marshes along the Beaufort Sea in Alaska are dominated by alkaligrass and sedges.

Moving upstream in coastal rivers where seawater is diluted by freshwater, the brackish tidal marshes can be found. Salinity here fluctuates greatly with the tides, river flow and the seasons. Nearest the salt marshes, black needlerush dominates brackish marshes along the South Atlantic and Gulf coasts, while big cordgrass, narrow-leaved cattail and bulrushes are important in more northern areas. As the upstream limit of salt water influence is approached, a highly diverse assemblage of emergent plants characterizes these marshes, including big cordgrass, narrow-leaved cattail, pickerelweed, wild rice, giant cutgrass, marsh mallow, arrowheads, smartweeds, sedges, bulrushes, beggar's-ticks and reed. Most of these plants, however, reach their maximum abundance in the Nation's inland wetlands.

Estuarine Intertidal Flats

Intertidal flats often lie seaward of tidal marshes and mangroves, at river mouths or along rocky coasts. They also occur as barren areas within the high marsh in high

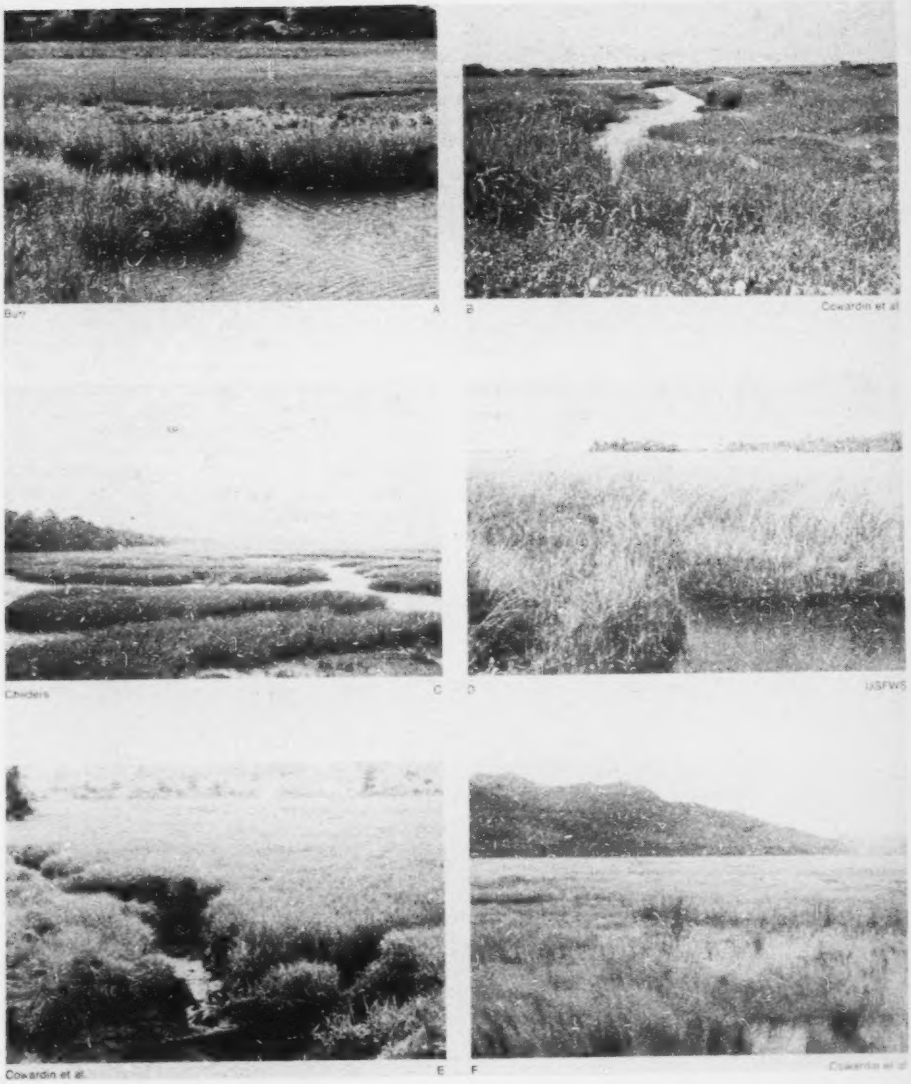
Burr
A
B
Cowardin et al.
Childers
C
D
USFWS
Cowardin et al.
E
F
Cowardin et al.

Fig. 5. Examples of estuarine emergent wetlands, (a) mixed plant community of irregularly flooded marsh, (b) reed-salt hay cordgrass marsh (c) regularly flooded cordgrass marsh, (d) black needlerush marsh, (e) Lyngbye's sedge marsh and (f) Alaskan irregularly flooded marsh.

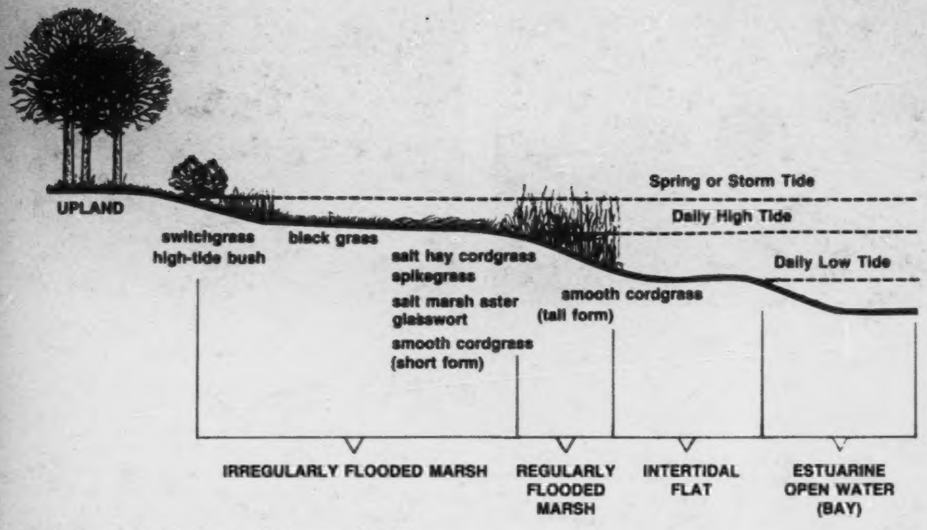
Spring or Storm Tide
Daily High Tide
Daily Low Tide
UPLAND
switchgrass
high-tide bush
black grass
salt hay cordgrass
spikegrass
salt marsh aster
glasswort
smooth cordgrass
(short form)
smooth cordgrass
(tall form)
IRREGULARLY FLOODED MARSH
REGULARLY FLOODED MARSH
INTERTIDAL FLAT
ESTUARINE OPEN WATER (BAY)

Fig. 6. Cross-sectional diagram of a Northeastern salt marsh.

salinity areas. Tidal flats appear at low tide largely as unvegetated expanses of mud or sand, although microscopic plants like diatoms, bluegreen algae and dinoflagellates may be extremely abundant (Figure 7). On occasion, macroscopic algae like sea lettuce may locally dominate these flats. These wetlands are particularly extensive in areas with high tidal ranges such as Alaska and Maine.

Estuarine Scrub-Shrub Wetlands

Estuarine scrub-shrub wetlands are characterized by salt-tolerant woody vegetation less than 20 feet in height. Common estuarine shrubs along the Atlantic and Gulf coasts are high-tide bush and sea myrtle. Estuarine shrub wetlands are perhaps best represented by mangrove swamps, which have a limited distribution in the U.S.

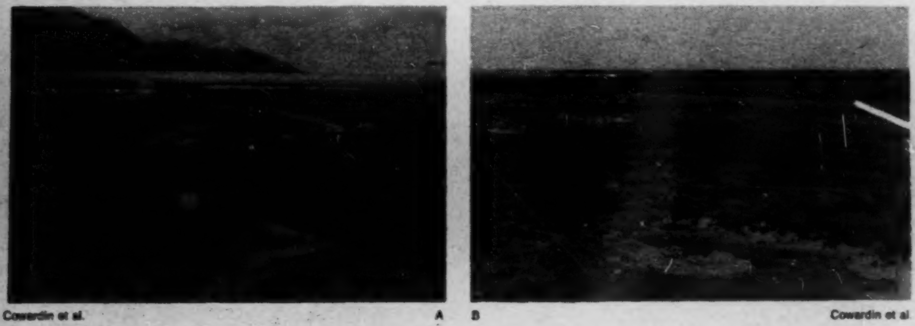
Cowardin et al.
A
B
Cowardin et al.

Fig. 7. Examples of estuarine intertidal flats, (a) Alaska and (b) Virginia.

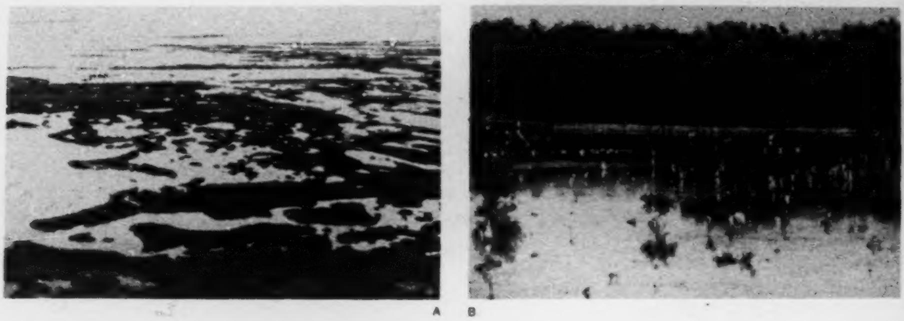

Fig. 8. Mangrove-dominated estuarine scrub-shrub wetlands of Florida, (a) aerial view and (b) close-up of red mangroves.

(Figure 8). Mangroves are generally found south of the 30° N Latitude and reach their maximum abundance in Florida, Puerto Rico, and the Virgin Islands. These wetlands are dominated by tall shrub forms of two mangroves: (1) red mangrove and (2) black mangrove. Red mangroves dominate the regularly flooded zone, while black mangroves characterize higher irregularly flooded areas. Salt marshes of smooth cordgrass, black needlerush, spikegrass, and saltwort may be closely associated with Florida's mangrove swamps.

Palustrine Wetlands

Palustrine wetlands occur in the interior of the country and largely consist of freshwater wetlands, although inland salt and brackish marshes exist in arid and semiarid areas. Palustrine wetlands are represented by three major types: (1) emergent wetland, (2) scrub-shrub wetland and (3) forested wetland. Shallow open waterbodies such as ponds and playa lakes (less than 6.6 feet deep) are also considered wetland by the Service.

Palustrine Emergent Wetlands

Palustrine emergent wetlands are dominated by herbaceous vegetation including certain grasses, cattails, rushes and sedges (Figure 9). These wetlands are commonly referred to by a variety of terms, including "marsh", "wet meadow", "fen", and "inland salt marsh", depending on the region of the country and individual characteristics. Emergent wetlands may be flooded for variable periods from as little as a couple of weeks early in the growing season to permanently flooded throughout the year. Some palustrine marshes are flooded by fresh tidal waters, mainly along the Atlantic, Gulf, and Alaskan coasts. Differences in local hydrology affect the wetness of a given marsh and the corresponding vegetative community. This is particularly evident in the Prairie Pothole Region. Here wetland vegetation growing in glacial depressions often creates a distinct zonal pattern related to differences in water regime (Figure 10). Emergent wetlands occur in a variety of situations, including along the margins of rivers and lakes, in upland depressions, in seepage areas on gentle slopes and in saturated permafrost areas of Alaska. Common marsh plants include cattails, wild rice, sedges, rushes, bulrushes, spikerushes, rice cutgrass, maidencane, reed, arrowheads, pickerelweed, smartweeds, and burreeds.

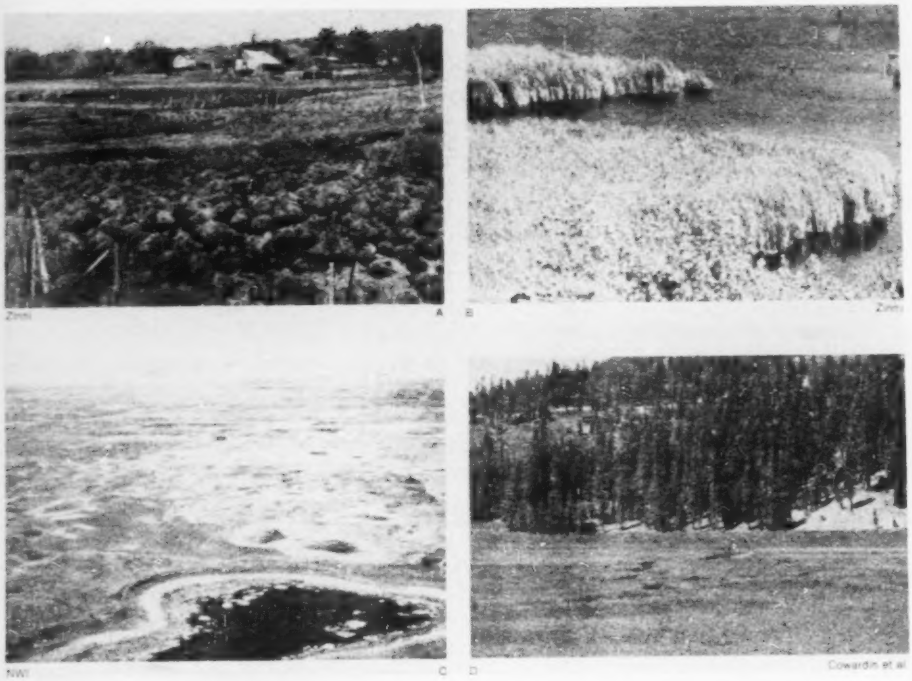
Zinn
A
B
Zinn
NWI
C
D
Cowardin et al.

Fig. 9. Examples of palustrine emergent wetlands, (a) Northeastern sedge meadow, (b) cattail marsh, (c) prairie pothole wetland, and (d) Western sedge meadow.

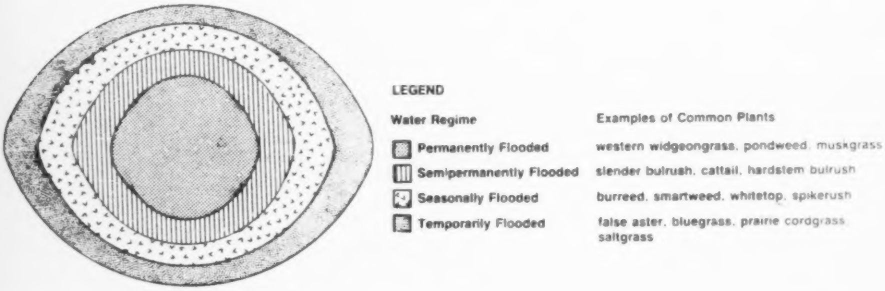
LEGEND
Water Regime
Examples of Common Plants
Permanently Flooded
western widgeongrass, pondweed, muskgrass
Semipermanently Flooded
slender bulrush, cattail, hardstem bulrush
Seasonally Flooded
burreed, smartweed, whitetop, spikerush
Temporarily Flooded
false aster, bluegrass, prairie cordgrass, saltgrass

Fig. 10. Generalized vegetation zones of a pothole wetland in relationship to water regime (from Stewart and Kantrud 1972).

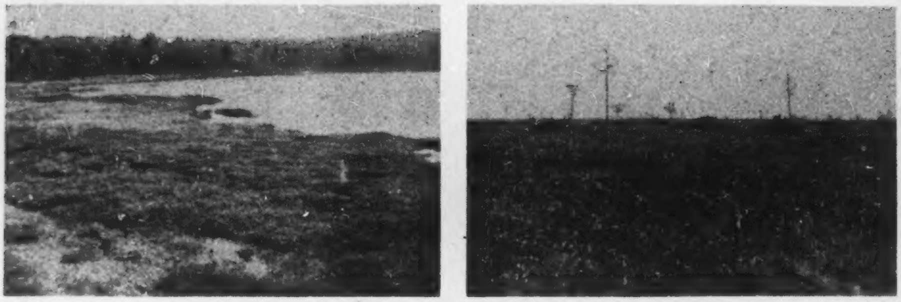

Fig. 11. Examples of palustrine scrub-shrub wetlands, (a) Northern leatherleaf bog and (b) pocosin.

Palustrine Scrub-Shrub Wetlands

Freshwater wetlands dominated by woody vegetation less than 20 feet tall represent palustrine scrub-shrub wetlands (Figure 11). Although not as abundant as palustrine emergent and forested wetlands, they occur widely throughout the Nation. These shrub-dominated wetlands are commonly called "bog", "pocosin", "shrub-carr", or "shrub swamp" in different parts of the country.

Northern and southern peat bogs are particularly interesting types of scrub-shrub wetlands. Both types are rarely flooded and are generally characterized by a saturated organic soil with the water table at or near the surface for most of the year. Northern bogs are prevalent in isolated depressions, along river courses and along the margins of lakes in states like Alaska, Maine, Michigan, Minnesota, New York and Wisconsin. Typical northern bog plants include leatherleaf, sweet gale, cotton grass, peat moss, bog rosemary, Labrador tea, cranberry, bog laurel, and sedges as well as stunted trees of black spruce, larch, lodgepole pine, and balsam fir. Southern bogs occur along the southeastern Coastal Plain and are locally called "pocosins." They are found on broad flat plateaus usually apart from large streams. Pocosins are dominated by evergreen shrubs of pond pine, sweet bay, inkberry, fetterbush and titi. Other important scrub-shrub wetlands in the U.S. are characterized by buttonbush, alders, willows, dogwoods and saplings of tree species like red maple and cottonwood.

Palustrine Forested Wetlands

Forested wetlands dominated by trees taller than 20 feet occur mostly in the eastern half of the United States and Alaska (Figure 12). In the East, they are the most abundant wetland type. They include such diverse types as black spruce bogs, cedar swamps, red maple swamps, and bottomland hardwood forests. In the Prairie Pothole Region of the Dakotas, forested wetlands are relatively uncommon. As in other inland wetlands, flooding is extremely variable depending on regional climate, topographic position and local hydrology. In the North, important trees of the wetter swamps are red maple, ashes, northern white cedar, black spruce and larch. Bald cypress, water tupelo, red maple, black gum, Atlantic white cedar, overcup oak, and black willow are common in southern wet swamps. In the Northwest, western hemlock, red alder and willows are important species. Drier swamps, those flooded only briefly during the growing season, are characterized by silver maple, pin oak, sycamore and beech in the North and by sweet gum, loblolly pine, slash pine, tulip poplar, beech, black walnut, sycamore, water hickory, pignut hickory and various oaks (e.g., water, laurel, and willow) in the South. Cottonwood, box elder, willows, green ash and elms dominate riparian wetlands along western streams. Black spruce, larch, lodgepole pine and balsam poplar are the major forested wetland species in Alaska.

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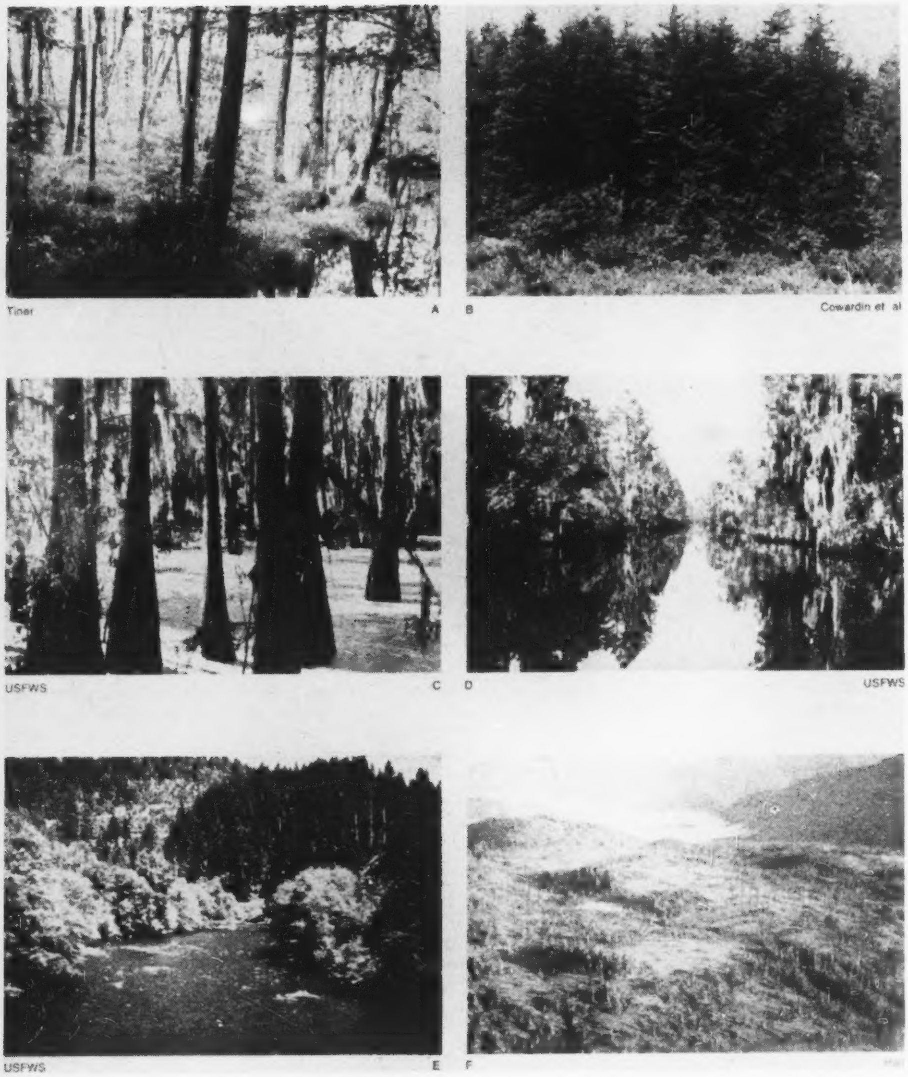
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Fig. 12. Examples of palustrine forested wetlands, (a) red maple swamp, (b) Atlantic white cedar swamp, (c) bald cypress swamp, (d) bottomland hardwood swamp, (e) riparian forested wetland, and (f) Alaskan forested wetland mixed with scrub-shrub wetland.

WHY ARE WETLANDS IMPORTANT?

Although often used by many people for hunting, trapping and fishing, wetlands were largely considered wastelands whose best use could only be attained through "reclamation projects," such as drainage for agriculture and filling for industrial or residential development. Much to the contrary, wetlands in their natural state provide a wealth of values to society (Table 1). Wetland benefits can be divided into three basic categories: (1) fish and wildlife values, (2) environmental quality values and (3) socio-economic values. The following discussion emphasizes the more important values. For an indepth examination of wetland value, the reader is referred to "Wetland Functions and Values: The State of Our Understanding" (Greeson, et al. 1979). In addition, the Service has created a wetland values database which records abstracts of over 2000 articles (Stuber 1983).

Table 1. *List of major wetland values.*

FISH AND WILDLIFE VALUES
- Fish and Shellfish Habitat
- Waterfowl and Other Bird Habitat
- Furbearer and Other Wildlife Habitat

ENVIRONMENTAL QUALITY VALUES
- Water Quality Maintenance
  - Pollution Filter
  - Sediment Removal
  - Oxygen Production
  - Nutrient Recycling
  - Chemical and Nutrient Absorption
- Aquatic Productivity
- Microclimate Regulator
- World Climate (Ozone layer)

SOCIO-ECONOMIC VALUES
- Flood Control
- Wave Damage Protection
- Erosion Control
- Groundwater Recharge and Water Supply
- Timber and Other Natural Products
- Energy Source (Peat)
- Livestock Grazing
- Fishing and Shellfishing
- Hunting and Trapping
- Recreation
- Aesthetics
- Education and Scientific Research

Fish and Wildlife Values

The variety of wetlands across the country create habitats for many forms of fish and wildlife. Some animals spend their entire lives in wetlands, while others use wetlands primarily for reproduction and nursery grounds. Numerous fish and wildlife frequent marshes and swamps for feeding or feed on organisms produced in wetlands, whereas many animals visit wetlands for drinking water. Wetlands are also crucial for survival of numerous endangered animals.

Fish and Shellfish Habitat

Both inland and coastal wetlands are essential to maintaining important fish populations. Estuarine wetlands are also important producers of shrimp, crabs, oysters and clams for man's consumption.

Approximately two-thirds of the major U.S. commercial fishes depend on estuaries and salt marshes for nursery or spawning grounds (McHugh 1966). Among the more familiar wetland-dependent fishes are menhaden, bluefish, fluke, sea trout, spot, mullet, croaker, striped bass, and drum. Coastal marshes along the Atlantic and Gulf coasts are most important in this regard. In the Pacific Northwest, coastal wetlands along spawning streams are vital to many salmon species (Merrell and Koski 1979).

Coastal wetlands are also essential for important shellfish like shrimp, blue crabs, oysters and clams. These areas serve as the primary nursery grounds for penaeid shrimp, whose young grow rapidly and reach adulthood here. Scientific studies have recently demonstrated a direct correlation between the amount of coastal marsh and shrimp production (Turner 1977).

Freshwater fishes also find wetlands important for survival. In fact, most freshwater fishes can be considered wetland-dependent because: (1) many species feed in wetlands or upon wetland-produced food, (2) many fishes use wetlands as nursery grounds and (3) almost all important recreational fishes spawn in the aquatic portions of wetlands (Peters, et al. 1979). Marshes along Lake Michigan, for example, are spawning grounds for northern pike, yellow perch, carp, smallmouth bass, largemouth bass, bluegill, bullhead and other fishes, including minnows (Jaworski and Raphael 1978). Prized gamefish — muskies and walleyes — may spawn in flooded marshes as well as feed there. Bottomland hardwood forests of the South serve as nursery and feeding grounds for young warmouth and largemouth bass, while adult

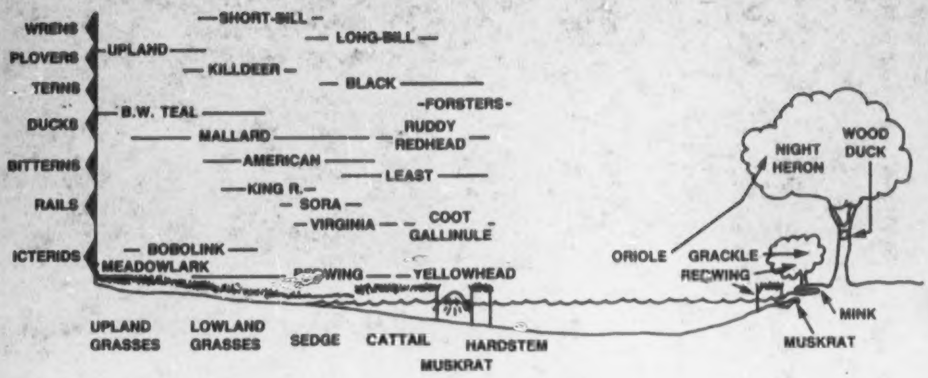


Fig. 13. Wetland habitat utilization by several families of birds (from Weller and Spatcher 1965).

bass feed and spawn in these wetlands. River swamps in Georgia produce 1,300 pounds of fish per acre (Wharton 1970). The bottomlands of the Altamaha River in Georgia are used for spawning by hickory shad and blueback herring (Wharton and Kitchens 1982). Southern bottomland forested wetlands are also the home of the edible red swamp crayfish ("crawdads") which burrow down to the water table when flooding waters recede (Patrick, et al. 1981). Wetland vegetation along western rivers is important to fishes in many ways, including providing cover, shade for water temperature regulation, and food for aquatic insects which are eaten by fishes.

Waterfowl and Other Bird Habitat

In addition to providing year-round habitats for resident birds, wetlands are especially important as breeding grounds, overwintering areas and feeding grounds for migratory waterfowl and numerous other birds (Figure 13). Both coastal and inland wetlands serve these valuable functions.

Salt marshes along the Atlantic coast are used for nesting by birds such as black ducks, laughing gulls, Forster's terns, sharp-tailed sparrows, clapper rails, blue-winged teals, willets, marsh hawks, and seaside sparrows. Wading birds like herons and egrets also feed and nest in coastal wetlands. Northeastern salt marshes are prime wintering grounds for black ducks in the Atlantic Flyway. Atlantic coastal marshes are also important feeding and stopover areas for migrating snow geese, peregrine falcons, shorebirds, wading birds and others. Intertidal mudflats along all coasts are principal feeding grounds for migratory shorebirds (e.g., oystercatchers, plovers and knots), while swallows and chimney swifts can often be seen feeding on flying insects over the marshes.

As one moves upstream into the fresh coastal marshes, other birds can be observed nesting including redwinged blackbirds, long-billed marsh wrens, least bitterns and clapper rails. Nesting birds of freshwater tidal marshes in New Jersey, for example, include these four birds, plus American goldfinch, swamp sparrow, Indigo bunting, common yellowthroat, yellow warbler, Traill's flycatcher, wood duck, green heron, and common gallinule (Hawkins and Leck 1977). Many of these birds utilize non-tidal wetlands as well for nesting.

The Nation's inland wetlands are most noted for waterfowl production, although they also serve as important nesting, feeding and resting areas for other migrating birds (Figures 14 and 15). The Prairie Pothole Region of the Dakotas is the principal breeding area for waterfowl in the United States. Pothole nesters include 15 species, with mallard, pintail and blue-winged teal most abundant (Smith, et al. 1964). Many of these nesters use different types of wetlands for mating and for rearing young. Individual mallard hens may use more than 20 different wetlands during the nesting season (Dwyer, et al. 1979). Besides waterfowl, other birds also nest in these wetlands such as redwinged blackbirds, Brewer's blackbirds, kingbirds, killdeer, spotted sandpipers, sparrows, Wilson's phalaropes and black terns (Johnsgard 1956). Pothole and other inland emergent wetlands also provide important

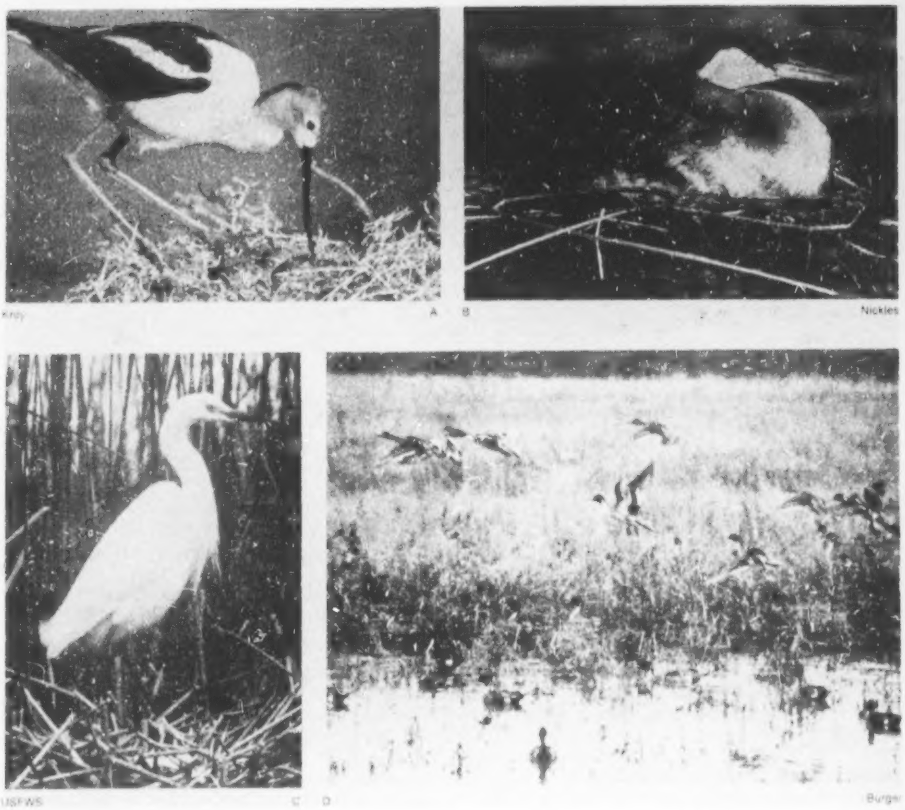


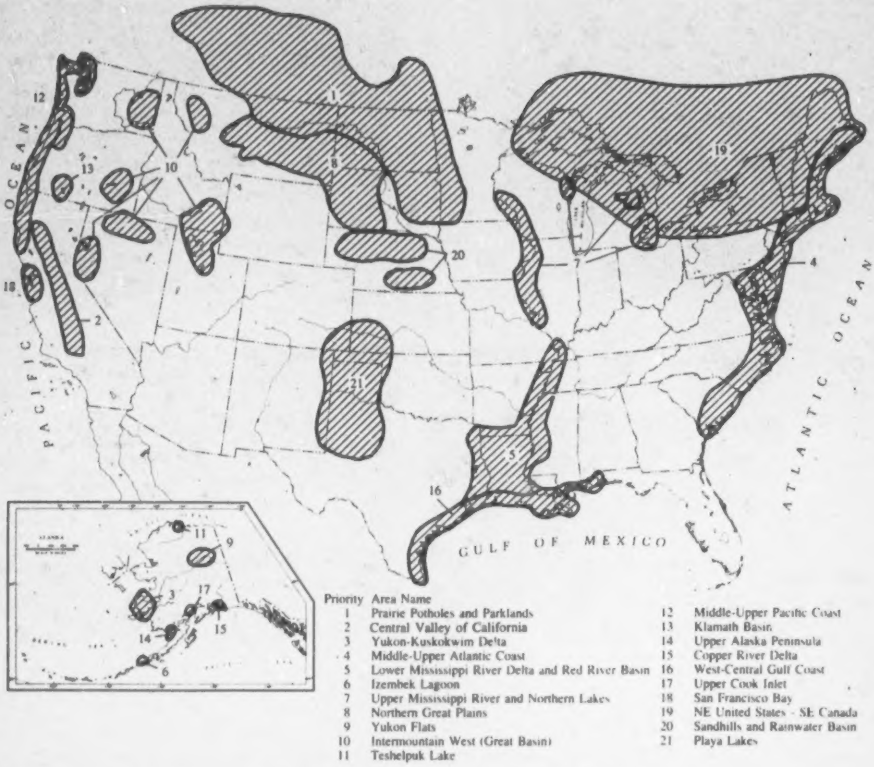
Fig. 14. Migratory birds using wetlands, (a) American avocet turning her eggs, (b) red-necked grebe on nest, (c) snowy egret on nest, and (d) pintails feeding.

winter cover and nesting habitat for ring-necked pheasant. In fact, the pheasant population in east-central Wisconsin is directly related to the amount and distribution of wetlands available (Gates and Hale 1974). Playa lake wetlands in the Texas Panhandle are important nesting habitats for pheasants, mourning doves, redwinged blackbirds, and others (Guthery 1981).

Bottomland forested wetlands of the South are primary wintering grounds for North American waterfowl as well as important breeding areas for wood ducks, herons, egrets and white ibises. Wild turkeys even nest in bottomland hardwood forests. Other common bird inhabitants include barred owls, downy and red-bellied woodpeckers, cardinals, pine warblers, wood peewees, yellowthroats and wood thrushes (Wharton and Kitchens 1982).

In the Northeast, red maple swamps are among the most abundant wetland types. A study of breeding birds in eight western Massachusetts swamps revealed a total of 46 breeding species (Swift 1980). Most common breeders include yellowthroat, veery, Canada warbler, ovenbird, northern waterthrush and gray catbird. The wood duck is another important resident of forested wetlands, primarily in the eastern half of the U.S., where it nests in cavities of dead trees or in man-made nesting boxes.

In the West, riparian forested wetlands along rivers are valuable bird nesting and migration stopover areas. Wauer (1977) found 9 avian species nesting in riparian vegetation of the Rio Grande, including mourning doves,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ATLANTIC OCEAN
GULF OF MEXICO
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Priority Area Name
1 Prairie Potholes and Parklands
2 Central Valley of California
3 Yukon-Kuskokwim Delta
4 Middle-Upper Atlantic Coast
5 Lower Mississippi River Delta and Red River Basin
6 Izembek Lagoon
7 Upper Mississippi River and Northern Lakes
8 Northern Great Plains
9 Yukon Flats
10 Intermountain West (Great Basin)
11 Teshelpuk Lake
12 Middle-Upper Pacific Coast
13 Klamath Basin
14 Upper Alaska Peninsula
15 Copper River Delta
16 West-Central Gulf Coast
17 Upper Cook Inlet
18 San Francisco Bay
19 NE United States - SE Canada
20 Sandhills and Rainwater Basin
21 Playa Lakes

Fig. 15. Waterfowl habitat areas of major national concern (from U.S. Fish and Wildlife Service 1984).

verdins, northern orioles and brown-headed cowbirds. These riparian wetlands were very important to migrating birds in the spring and fall. In Arizona, the yellow-billed cuckoo and blue-throated hummingbird are restricted to cottonwood-willow forested wetlands (Brown, et al. 1977). Riparian wetlands may be more important to migrating birds in arid regions than in more humid areas. The availability of food, water, cover, and suitable north-south routing strongly influence migrants (Wauer 1977).

Alaskan and other tundra wetlands are prime breeding grounds for most shorebirds such as sandpipers, plovers and their relatives. Nearly the entire Pacific Flyway populations of the cackling Canada goose and the white-fronted goose nest in Alaska's Yukon-Kuskokwim Delta. Alaska is also the most important production area for pintail in the U.S. (U.S. Fish and Wildlife Service 1984). During droughts in the Prairie Pothole Region, Alaska's wetlands are heavily used by North American waterfowl for nesting.

Hawaii's wetlands are especially important to endangered birds. The Hawaiian stilt, Hawaiian coot, Hawaiian gallinule, and Hawaiian duck depend on wetlands for survival.

Wetlands are, therefore, crucial for the existence of many birds, ranging from waterfowl and shorebirds to songbirds. Some spend their entire lives in wetland environments, while others primarily use wetlands for nesting, feeding or resting.

Furbearer and Other Wildlife Habitat

If a fur trapper is asked about the value of wetlands, he is likely to reply that they produce furbearers, like muskrats, beavers and nutria. Muskrats are the most wide ranging of the three, inhabitating both coastal and inland marshes throughout the country. By contrast, beavers tend to be restricted to inland wetlands, with nutria limit-

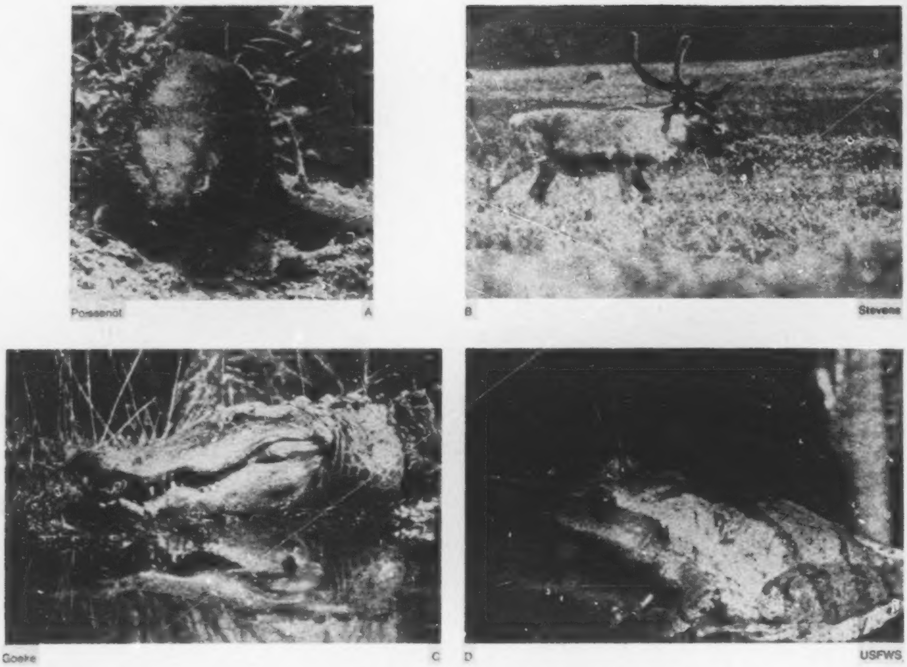


Fig. 16. Wetlands are important to many other wildlife, (a) beaver, (b) caribou, (c) alligator, and (d) spring peeper.

ed to coastal wetlands of the South. Other wetland-utilizing furbearers include otter, mink, raccoon, skunk and weasels. Other mammals also frequent wetlands, such as marsh and swamp rabbits, numerous mice, bog lemmings and shrews. Larger mammals may also be observed. Black bears find refuge and food in forested and shrub wetlands of northeastern Pennsylvania and western Massachusetts, for example. In northern states, white-tailed deer depend on white cedar and other evergreen swamps for winter shelter and food. By contrast, the extensive wetlands of Alaska's North Slope are used as summer range and calving areas by caribou.

Other forms of wildlife make their homes in wetlands (Figure 16). Turtles, reptiles, and amphibians are important residents. Turtles are most common in freshwater marshes and ponds. The more important ones are the painted, spotted, Blanding's, map, mud, pond, musk and snapping turtles (Clark 1979). The endangered Plymouth red-bellied turtle and bog turtle are also wetland-dependent (Williams and Dodd 1979). Along the coast the diamond-backed terrapin is a common inhabitant of salt marshes, while young loggerhead turtles spend some time in estuaries after hatching before going out to sea.

The largest reptiles occurring in the United States — the American alligator and the American crocodile — live in wetlands. The crocodile, an endangered species, is now only found in mangroves and coastal waters of Florida Bay, while the alligator occurs from Florida north to North Carolina and west to Texas. The alligator lives in both brackish and freshwater wetlands, but is most abundant in the latter. Alligators create "gator holes" in the Everglades, which persist through the dry season. Fishes and invertebrates concentrate in these holes which make them easy prey for birds and other animals. Gator holes with their abundance of food are important to the breeding success of birds like the wood ibis (Williams and Dodd 1979).

Many snakes inhabit wetlands, with water snakes being most abundant throughout the U.S. (Clark 1979). Other important wetland snakes include cottonmouth moccasin, garter, queen, mud and swamp snakes. In bottomland wetlands of the South, copperheads and canebrake rattlesnakes can be found as well as northern brown, garter, rough green and rat snakes (Wharton and Kitchens 1982). The San Francisco garter snake, an endangered species, also requires wetlands for survival (Williams and Dodd 1979).

Nearly all of the approximately 190 species of amphibians in North America are wetland-dependent, at least for breeding (Clark 1979). Every freshwater wetland in the U.S., except in the Arctic tundra, probably has some frogs. Common frogs include the bull, green, leopard, mink, pickerel, wood and chorus frogs and spring peepers. Many salamanders use temporary ponds or wetlands for breeding, although they spend most of the year in uplands. Numbers of amphibians, even in small wetlands, can be astonishing. For example, 1,600 salamanders and 3,800 frogs and toads were found in a small gum pond (less than 100 feet wide) in Georgia (Wharton 1978).

Environmental Quality Values

Besides providing homes for fish and wildlife, wetlands play a less conspicuous but nonetheless important role in maintaining high environmental quality, especially in aquatic habitats. They do this in a number of ways, including purifying natural waters by removing nutrients, chemical and organic pollutants, and sediment and producing food which supports aquatic life.

Water Quality Improvement

Wetlands help maintain good water quality or improve degraded waters in several ways: (1) removing nutrients, (2) processing chemical and organic wastes, and (3) reducing sediment loads of water. Wetlands are particularly good water filters because of their location between land and water. Thus, they can both intercept runoff from land before it reaches the water and help filter nutrients, wastes and sediment from flooding waters. Clean waters are important to man as well as to aquatic life.

First, wetlands remove nutrients, especially nitrogen and phosphorus, from flooding waters for plant growth and help prevent eutrophication or overenrichment of natural waters. It is, however, possible to overload a wetland and thereby reduce its ability to perform this function. Every wetland has a limited capacity to absorb nutrients and individual wetlands differ in their ability to do so.

Wetlands have been shown to be excellent removers of waste products from water. In fact, certain wetland plants are so efficient at this task that some artificial waste treatment systems are using these plants. For example, the Max Planck Institute of Germany has a patent to create such systems, where a bulrush is the primary waste removal agent (Sloey, et al. 1978).

Numerous scientists have proposed that certain types of wetlands be used to process domestic wastes. Some wetlands are already used for this purpose. The Brillion Marsh in Wisconsin has received domestic sewage since 1923. This cattail marsh on the average removed 80% of biological oxygen demand, 86% of coliform bacteria, 51% of nitrates, 40% of chemical oxygen demand, 44% of turbidity, 29% suspended solids and 13% of total phosphorus. After passing through Brillion Marsh, there was a significant improvement in water quality (Boto and Patrick 1979).

Perhaps the best example of the importance of wetlands for water quality improvement is Tinicum Marsh (Grant and Patrick 1970). Tinicum Marsh is a 512-acre freshwater tidal marsh lying just south of Philadelphia, Pennsylvania (Figure 17). Three sewage treatment plants discharge treated sewage into marsh waters. On a daily basis, it was shown that this marsh removes from flooding waters: 7.7 tons of biological oxygen demand, 4.9 tons of phosphorus, 4.3 tons of ammonia, and 138 pounds of nitrate. In addition, Tinicum Marsh adds 20 tons of oxygen to the water each day.

Swamps also have the capacity for removing water pollutants. Bottomland forested wetlands along the Alcovy River in Georgia filter impurities from flooding waters. Human and chicken wastes grossly pollute the river upstream, but after passing through less than 3 miles of swamp, the river's water quality is significantly improved. The value of the 2,300-acre Alcovy River Swamp for water pollution control was estimated at $1 million per year (Wharton 1970).

Wetlands play a valuable role in reducing turbidity of flooding waters. This is especially important for aquatic life and for reducing siltation of ports, harbors, rivers and reservoirs. Removal of sediment load is also valuable because sediments often transport absorbed nutrients, pesticides, heavy metals and other toxins which pollute our Nation's waters (Boto and Patrick 1979). Depressional wetlands should retain all of the sediment entering them (Novitski 1978). In Wisconsin, watersheds with 40% coverage by lakes and wetlands had 90% less sediment in water than watersheds with no lakes or wetlands (Hindall 1975). Creekbanks of salt marshes typically support more productive vegetation than the marsh interior. Deposition of silt is accentuated at the water-marsh interface, where vegetation slows the velocity of water causing sediment to drop out of solution. In addition to improving water quality, this process adds nutrients to the creekside marsh which leads to higher plant productivity (DeLaune, et al. 1978).

The U.S. Army Corps of Engineers has investigated the use of marsh vegetation to lower turbidity of dredged disposal runoff and to remove contaminants. In a 50-acre impoundment near Georgetown, South Carolina, after passing through about 2,000 feet of marsh vegetation, the effluent turbidity was similar to that of the adjacent river

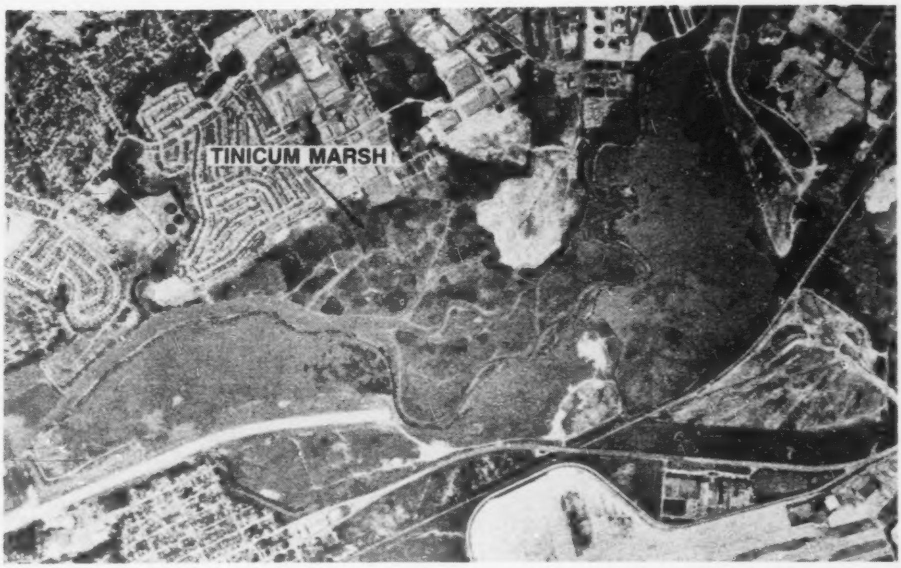


Fig. 17. Aerial view of Tinicum Marsh near Philadelphia, Pennsylvania. This marsh is particularly valuable for improving water quality in an urban environment.

(Lee, et al. 1976). Wetlands have also been proven to be good filters of nutrients and heavy metal loads in dredged material disposal effluents (Windom 1977).

Aquatic Productivity

Wetlands are among the most productive ecosystems in the world and they may be the highest, rivaling our best cornfields (Figure 18). Wetland plants are particularly efficient converters of solar energy. Through photosynthesis, plants convert sunlight into plant material or biomass and produce oxygen as a by-product. This biomass serves as food for a multitude of animals, both aquatic and terrestrial. For example, many waterfowl depend heavily on seeds of marsh plants, while muskrat eat cattail tubers and young shoots. Moose, caribou, black bears and brown bears graze on marsh plants in Alaska (Crow and Macdonald 1979).

Although direct grazing of wetland plants is generally limited, their major food value is reached upon death when plants fragment to form detritus. This detritus forms the base of an aquatic food web which supports higher consumers, like commercial fishes (Figure 19). This relationship is especially well-documented for coastal areas. Animals, like shrimp, snails, clams, worms, killifish and mullet, eat detritus or graze upon the bacteria, fungi, diatoms and protozoa growing on its surfaces (Crow and Macdonald 1979; de la Cruz 1979). Many of these animals are the primary food for commercial and recreational fishes. Salmon are linked with wetlands and detritus. Juvenile salmon in Puget Sound, Washington, feed mainly on salt marsh midge larvae, which subsist on detritus (Crow and Macdonald 1979). Detritus from wetland vegetation along western rivers feeds aquatic insects important to the diet of resident fishes. Thus, wetlands can be regarded as the farmlands of the aquatic environment where great volumes of food are produced annually. The majority of non-marine aquatic animals depend, either directly or indirectly, on this food source.

Socio-Economic Values

The more tangible benefits of wetlands to mankind may be considered socio-economic values and they include flood and storm damage protection, erosion control, water supply and groundwater recharge, harvest of natural products, livestock grazing and recreation. Since these values provide either dollar savings or financial profit, they are more easily understood by most people.

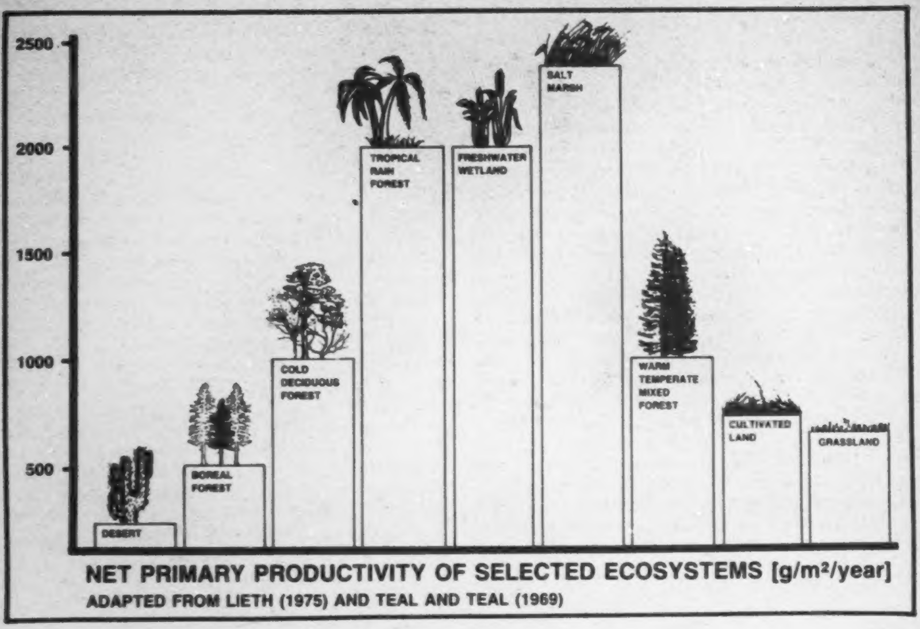


Fig. 18. Relative productivity of wetland ecosystems in relation to others (from Newton 1981).

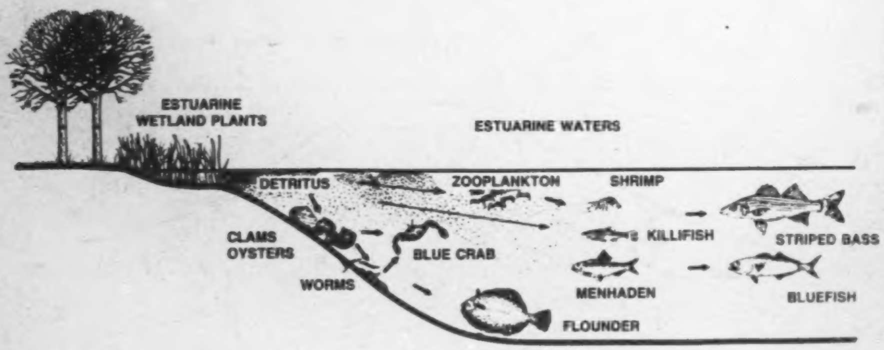

ESTUARINE WETLAND PLANTS
ESTUARINE WATERS
DETRITUS
ZOOPLANKTON
SHRIMP
KILLIFISH
STRIPED BASS
CLAMS
OYSTERS
BLUE CRAB
WORMS
MENHADEN
BLUEFISH
FLOUNDER

Fig. 19. Simplified food pathways from estuarine wetland vegetation to commercial and recreational fishes.

Flood and Storm Damage Protection

In their natural condition, most wetlands serve to temporarily store flood waters, thereby protecting downstream property owners from flood damage. After all, such flooding has been the driving force in creating these wetlands. This flood storage function also helps to slow the velocity of water and lower wave heights, which reduces the water's erosive potential. Rather than having all flood waters flowing rapidly downstream and destroying private property and crops, wetlands slow the flow of water, store it for some time and slowly release stored waters downstream (Figure 20). In this way, flood peaks of tributary streams are desynchronized and flood waters do not all reach the mainstem river at the same time. This function becomes increasingly important in urban areas, where development has increased the rate and volume of surface water runoff and the potential for flood damage.

In 1975, 107 people were killed by flood waters and potential property damage for the year was estimated to be $3.4 billion (U.S. Water Resources Council 1978). Almost half of all flood damage is suffered by agriculture as crops and livestock are destroyed and productive land is covered by water or lost to erosion. Approximately 134 million acres of the conterminous United States have severe flooding problems. Of this, 2.8 million acres are urban land and 92.8 million acres are agricultural land (U.S. Water Resources Council 1977). Many of these flooded farmlands are wetlands or previously drained wetlands.

Although regulations required by the Federal Insurance Administration may help reduce flood losses from urban land, agricultural losses are expected to remain at present levels or increase as more wetlands are put into crop production. Protection of wetlands is, therefore, an important means of minimizing flood damages in the future.

The U.S. Army Corps of Engineers has recognized the value of wetlands for flood storage in Massachusetts. In the early 1970's, the New England Division considered various alternatives to providing flood protection in the lower Charles River watershed near Boston, including: (1) 55,000 acre-foot reservoir, (2) extensive walls and dikes, and (3) perpetual protection of 8,500 acres of wetlands (U.S. Army Corps of Engineers 1976). If 40% of the Charles River wetlands were destroyed, flood damages would increase by at least $3 million annually. Loss of all basin wetlands would cause an average annual flood damage cost of $17 million (Thibodeau and Ostro 1981). The Corps concluded that wetlands protection — "Natural Valley Storage" — was the least-cost solution to flooding problems. In 1983, they completed wetland acquisition in the Charles River basin.

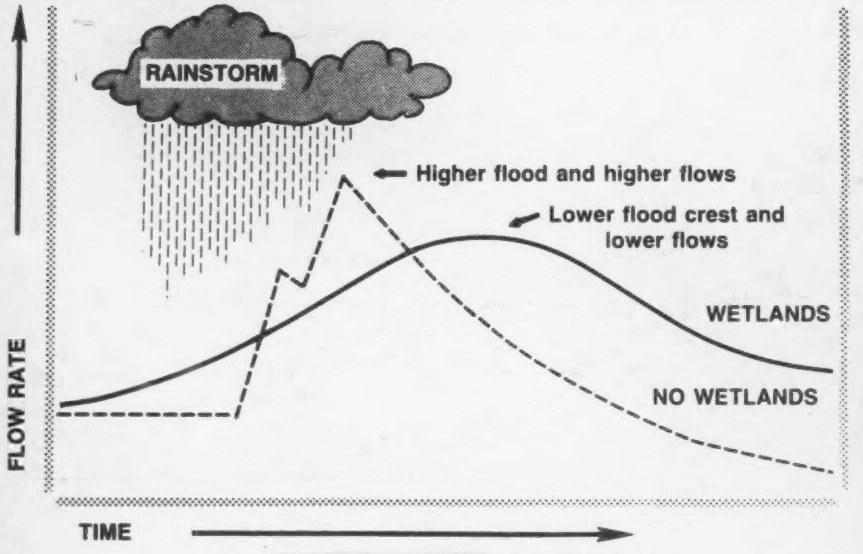

RAINSTORM
Higher flood and higher flows
Lower flood crest and lower flows
WETLANDS
NO WETLANDS
FLOW RATE
FLOOD HEIGHT
TIME

Fig. 20. Wetland value in reducing flood crests and flow rates after rainstorms (adapted from Kusler 1983).

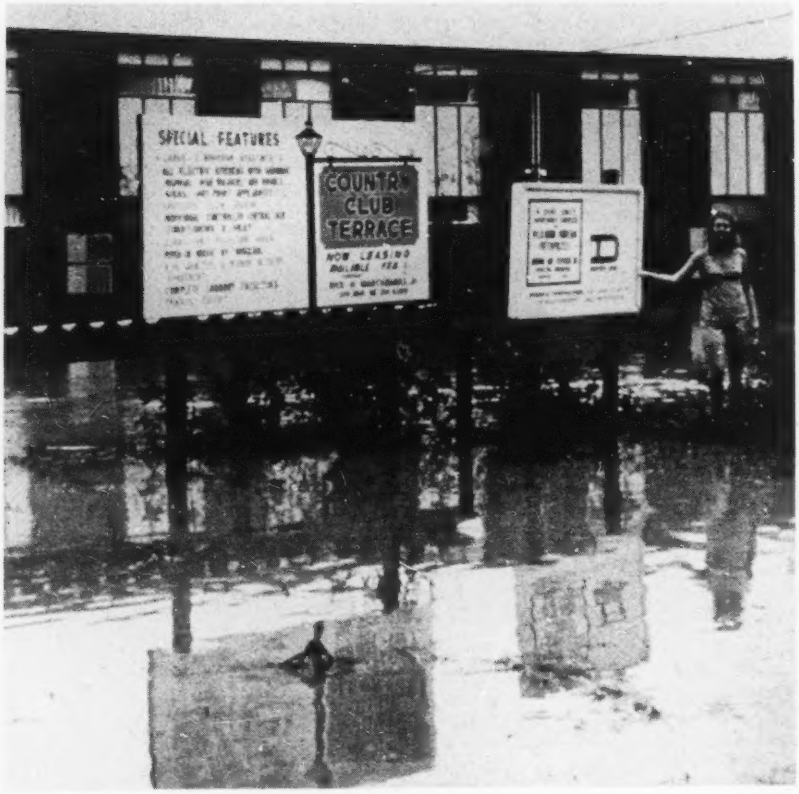


Fig. 21. Wetland drainage and filling increase the potential for damaging floods.

This flood storage value of wetlands has also been reported for other areas. In eastern Pennsylvania, the 1955 floods washed out all but two bridges along one stream; the remaining bridges lay immediately downstream of the Cranberry Bog (Goodwin and Niering 1975). A Wisconsin study projected that floods may be lowered as much as 80% in watersheds with many wetlands compared with similar basins with little or no wetlands (Novitski 1978). Pothole wetlands in the Devils Lake basin of North Dakota store nearly 75% of the total runoff (Ludden, et al. 1983).

Recent studies at National Wildlife Refuges in North Dakota and Minnesota have demonstrated the role of wetlands in reducing streamflow. Inflow into the Agassiz National Wildlife Refuge and the Thief River Wildlife Management Area was 5,000 cubic feet per second (cfs), while outflow was only 1,400 cfs. Storage capacity of those areas reduced flood peaks at Crookston, Minnesota, by 1.5 feet and at Grand Forks, North Dakota, by 0.5 feet (Bernot 1979). Drainage of wetlands was the most important land-use practice causing flood problems in a North Dakota watershed (Malcolm 1978; Malcolm 1979). Even northern peat bogs reduce peak rates of streamflow from snow melt and heavy summer rains (Verry and Boelter 1979). Destruction of wetlands through floodplain development and drainage has been partly responsible for recent major flood disasters throughout the country (Figure 21).

Besides reducing flood levels and potential damage, wetlands may buffer the land from storm wave damage. Mangrove swamps are so effective in this regard that the Federal Insurance Administration's regulations state that insured communities shall prohibit mangrove destruction or lose Federal flood insurance. Extensive mangrove stands protect many coastal communities in Florida. Past destruction of these wetlands for resort housing developments has increased the potential for disaster. Other coastal wetlands and forested wetlands along lakes and large rivers may function similarly.

Erosion Control

Located between watercourses and uplands, wetlands help protect uplands from erosion. Wetland vegetation can reduce shoreline erosion in several ways, including: (1) increasing durability of the sediment through binding with its roots, (2) dampening waves through friction and (3) reducing current velocity through friction (Dean 1979). This process also helps reduce turbidity and thereby improves water quality.

Obviously, trees are good stabilizers of river banks. Their roots bind the soil making it more resistant to erosion, while their trunks and branches slow the flow of flooding waters and dampen wave heights. The banks of some rivers have not been eroded for 100 to 200 years due to the presence of trees (Leopold and Wolman 1957; Wolman and Leopold 1957; Sigafoos 1964). Among the grass or grass-like plants, bulrushes and reed have been regarded as the best at withstanding wave and current action (Kadlec and Wentz 1974; Seibert 1968). While most wetland plants need calm or sheltered water for establishment, they will effectively control erosion once established (Kadlec and Wentz 1974; Garbisch 1977).

Wetland vegetation has been successfully planted to reduce erosion along U.S. waters. Willows, alders, ashes, cottonwoods, poplars, maples and elms are particularly good stabilizers (Allen 1979). Successful emergent plants include reed canary grass, reed, cattail, and bulrushes in freshwater areas (Hoffman 1977). Along the Atlantic and Gulf coasts, smooth cordgrass and mangroves have been quite effective (Woodhouse, et al. 1976; Lewis and Thomas 1974).

Water Supply and Groundwater Recharge

Most wetlands are areas of groundwater discharge and some may provide sufficient quantities of water for public use. In Massachusetts, 40% to 50% of wetlands may be valuable potential sources of drinking water. At least 60 municipalities in the state have public wells in or very near wetlands (Motts and Heeley 1973). Urban development of wetlands and subsequent groundwater withdrawals have caused saltwater intrusion into aquifers in many coastal areas. Prairie pothole wetlands store water which is important for wildlife and may be used for irrigation and livestock watering by farmers during droughts (Leitch 1981). These situations may hold true for many other states and wetland protection could be instrumental in solving current and future water supply problems.

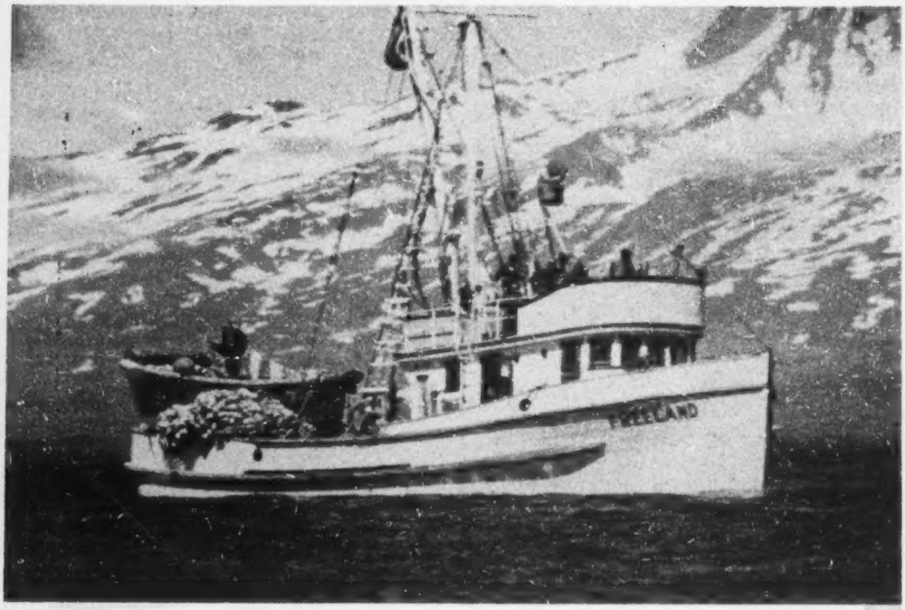
There is considerable debate over the role of wetlands in groundwater recharge. Recharge potential of wetlands varies according to numerous factors, including wetland type, geographic location, season, soil type, water table location and precipitation. Depressional wetlands like cypress domes in Florida and prairie potholes in the Dakotas may contribute to groundwater recharge (Odum, et al. 1975; Stewart and Kantrud 1972; Winter and Carr 1980). Floodplain wetlands also may do this through overbank water storage (Mundorff 1950; Klopatek 1978). Marshes and swamps along the Ipswich River in Massachusetts occasionally operate as recharge areas (U.S. Department of the Interior 1962).

Harvest of Natural Products

A variety of natural products are produced by wetlands, including timber, fish and shellfish, wildlife, peat, cranberries, blueberries, and wild rice. Wetland grasses are hayed in many places for winter livestock feed. During other seasons, livestock graze directly in wetlands across the country. These and other products are harvested by man for his use and provide a livelihood for many people.

In the 49 continental states, an estimated 82 million acres of commercial forested wetlands exist (Johnson 1979). These forests provide timber for such uses as homes, furniture, newspapers and firewood. Most of these forests lie east of the Rockies, where trees like oak, gum, cypress, elm, ash and cottonwood are most important. The standing value of southern wetland forests alone is $8 billion. These southern forests have been harvested for over 200 years without noticeable degradation, thus they can be expected to produce timber for many years to come, unless converted to other uses. Conversion of bottomland forests in the Mississippi Delta to agricultural fields (e.g., soybeans) has reduced these wetlands by 75% (Giulio 1978; MacDonald, et al. 1979; Frederickson 1979).

Wetlands also produce fish and wildlife for man's use. Commercial fishermen and trappers make a living from these resources (Figure 22). From 1956 to 1975, about 60% of the U.S. commercial landings were fishes and shellfishes that depend on wetlands (Peters, et al. 1979). Major commercial species associated with wetlands are menhaden, salmon, shrimp, blue crab and alewife from coastal waters and catfish, carp and buffalo from inland areas. Furs from beaver, muskrat, mink, nutria, and otter yielded roughly $35.5 million in 1976 (Demms and Pursley 1978). Louisiana is the largest fur-producing state and nearly all furs come from wetland animals. Freshwater wetlands provide a greater value of fur harvest per acre than estuarine wetlands (Chabreck 1979).



Morrell

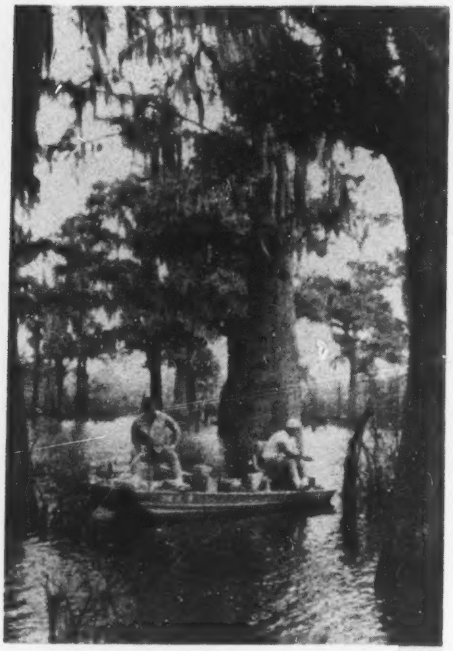
Fig.22. Estuarine-dependent fishes, like salmon, provide the majority of the commercial fisheries landings in the United States.

Many wetlands produce peat which is used mainly for horticulture and agriculture in the United States. Over 52 million acres of peat deposits exist in the country. Five states account for more than 75% of the peat production: Michigan, Florida, Illinois, Indiana and New York (Carpenter and Farmer 1981). That is particularly interesting, since our largest peat reserves are in Alaska and Minnesota (Farnham 1979). For centuries, peat has been used as a major fuel source in Europe. Recent shortages in other fuels, particularly oil and gas, have increased attention to wetlands as potential fuel sources. Unfortunately, peat mining destroys wetlands and most of their associated values.

Recreation and Aesthetics

Many recreational activities take place in and around wetlands. Hunting and fishing are popular sports. Waterfowl hunting is a major activity in wetlands, but big game hunting is also important locally. In 1980, 5.3 million people spent $638 million on hunting waterfowl and other migratory birds (U.S. Department of the Interior and Department of Commerce 1982). Saltwater recreational fishing has increased dramatically over the past 20 years, with half of this catch represented by wetland-associated species. Moreover, nearly all freshwater fishing is dependent on wetlands (Figure 23). In 1975 alone, sportfishermen spent $13.1 billion to catch wetland-dependent fishes (Peters, et al. 1979).

Other recreation in wetlands is largely non-consumptive and involves activities like hiking, nature observation and photography, swimming, boating, and ice-skating. Many people simply enjoy the beauty and sounds of nature and spend their leisure time walking or boating in or near wetlands observing plant and animal life. The aesthetic value of wetlands is extremely difficult to evaluate or place a dollar value upon. Nonetheless, it is a very important one because in 1980 alone, 28.8 million people (17% of the U.S. population) took special trips to observe, photograph or feed wildlife (Figure 24). Moreover, about 47% of all Americans showed an active interest in wildlife around their homes (U.S. Department of the Interior and Department of Commerce 1982).



USFWS

Fig. 23. Wetlands provide opportunities for recreational fishing.

Summary

Marshes, swamps and other wetlands are an asset to society in their natural state. They provide numerous products for man's use and consumption, protect private property and provide recreational and aesthetic appreciation opportunities. Destruction or alteration of wetlands eliminates or minimizes these values. Drainage of wetlands, for example, eliminates all the beneficial effects of the marsh on water quality and directly contributes to flooding problems (Lee, et al. 1975). While the wetland landowner can derive financial profit from some of the values mentioned, the general public receives the vast majority of wetland benefits through flood and storm damage control, erosion control, water quality improvement and fish and wildlife resources. It is, therefore, in the public's best interest to protect wetlands to preserve these values for themselves and future generations.

Marshall

Fig. 24. Many Americans enjoy watching birds in and around wetlands.

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CURRENT STATUS AND TRENDS OF U.S. WETLANDS

Current Status

Wetlands exist in every state and their abundance varies due to climate, soils, geology, land use and other regional differences. Figure 25 shows the estimated extent of wetlands within each of the 50 states. Alaska, Louisiana, and Florida contain the most wetland acreage. Other states with considerable acreage include Alabama, Arkansas, Georgia, Maine, Michigan, Minnesota, Mississippi, North Carolina, South Carolina and Wisconsin. Smaller states like Delaware and New Jersey are also well represented by wetlands.

In the mid-1970's, an estimated 99 million acres of wetlands existed in the conterminous United States (Frayer, et al. 1983). This amounts to an area equal to the size of California. Only 5% of the land surface of the lower 48 states contains wetland. Alaska and Hawaii are not included in these figures. Estimates of Alaska's wetland resource vary, but 200 million acres probably exist.

The abundance of major wetland types in the conterminous U.S. is shown in Figure 26. Palustrine wetlands, including freshwater marshes and swamps, comprise 94% of the wetlands in the lower 48 states. In the mid-1970's, 93.7 million acres of palustrine wetlands were present, with over half of this acreage being forested wetland and about a third being emergent wetland. Remaining palustrine wetland acreage equals an area about the size of California. By contrast, only 5.2 million acres of estuarine wetlands existed by the mid-1970's. This amounts to an area approximately the size of Massachusetts and represents only 0.3% of the land surface of the lower 48 states.

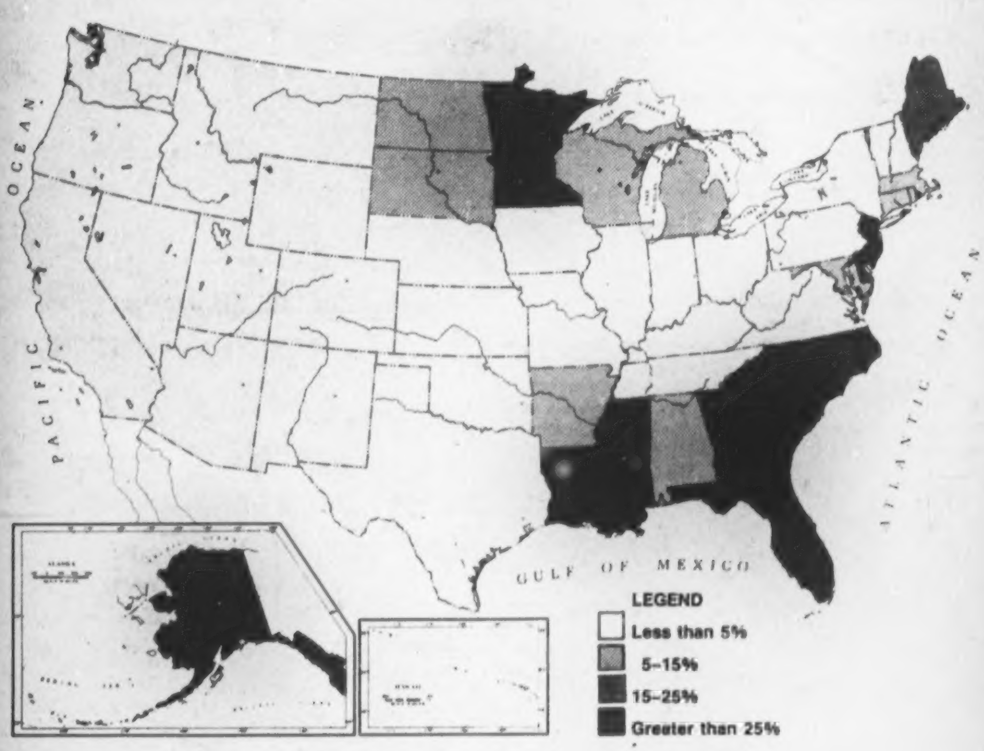


Fig. 25. Relative abundance of wetlands in the U.S. (1984). Percent of each state represented by wetland is shown.

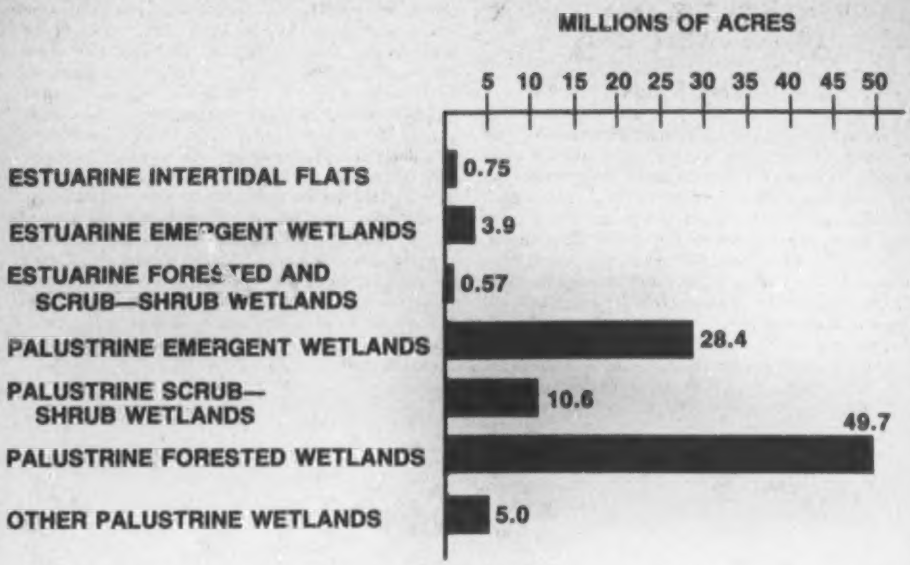


Fig. 26. Extent of wetlands in the conterminous U.S. in the mid-1970's (from Frayer, et al. 1983).

Estimates of the original wetland acreage present at this country's settlement vary, since the available information is scattered and largely incomplete. However, a very reliable account places this acreage at 215 million acres for the conterminous United States (Roe and Ayres 1954). Thus, today's wetland resource in the lower 48 states probably represents less than 46% of our original wetlands (Figure 27).

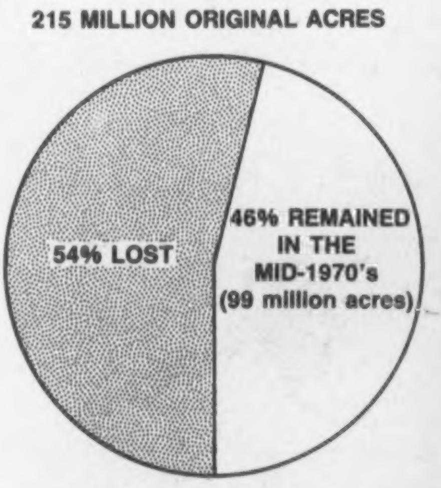


Fig. 27. Original and remaining acreages of wetlands in the conterminous U.S. (from Roe and Ayres 1954; Frayer, et al. 1983).

Forces Changing Wetlands

Wetlands represent a dynamic natural environment which are subjected to both human and natural forces. These forces directly result in wetland gains and losses as well as affect their quality. Table 2 outlines major causes of wetland loss and degradation.

Table 2. *Major causes of wetland loss and degradation (Zinn and Copeland 1982; Gosselink and Baumann 1980).*

Human Threats
- Direct:
  1. Drainage for crop production, timber production and mosquito control.
  2. Dredging and stream channelization for navigation channels, flood protection, coastal housing developments, and reservoir maintenance.
  3. Filling for dredged spoil and other solid waste disposal, roads and highways, and commercial, residential and industrial development.
  4. Construction of dikes, dams, levees and seawalls for flood control, water supply, irrigation and storm protection.
  5. Discharges of materials (e.g., pesticides, herbicides, other pollutants, nutrient loading from domestic sewage and agricultural runoff, and sediments from dredging and filling, agricultural and other land development) into waters and wetlands.
  6. Mining of wetland soils for peat, coal, sand, gravel, phosphate and other materials.
- Indirect:
  1. Sediment diversion by dams, deep channels and other structures.
  2. Hydrologic alterations by canals, spoil banks, roads and other structures.
  3. Subsidence due to extraction of groundwater, oil, gas, sulphur, and other minerals.

Natural Threats:
1. Subsidence (including natural rise of sea level)
2. Droughts
3. Hurricanes and other storms
4. Erosion
5. Biotic effects, e.g., muskrat, nutria and goose "eat-outs."

Natural events influencing wetlands include rising sea level, natural succession, the hydrologic cycle, sedimentation, erosion, beaver dam construction and fire. The rise in sea level, for example, both increases and decreases wetland acreage depending on local factors. Along the eastern shore of Chesapeake Bay, it is allowing coastal wetlands to establish in former upland pine areas, while permanently flooding wetlands at lowest elevations. Rising sea level is one factor converting salt marshes to bay bottoms in Louisiana. Natural succession and fire typically change the vegetation of a wetland usually with no net loss or gain. However, fire in Alaska's permafrost wetlands may convert the area to nonwetland. Disturbance of the vegetative cover can cause the frostline to recede, and dry site plants may become established. The hydrologic cycle refers to the natural cycle of wet and dry periods over time. Great Lakes water levels, for example, fluctuate drastically on a roughly 20-year cycle. This adds an important dimension to wetlands, making them vulnerable to drainage during dry periods. Similar conditions have resulted in wetland drainage in the Prairie Pothole Region. The activities of beavers create or alter wetlands by damming stream channels. Thus, natural forces act in a variety of ways to create, destroy and modify wetlands.

Human actions are particularly significant in determining the fate of wetlands. Unfortunately, many human activities are destructive to wetlands, either converting them to agricultural or other lands or degrading their quality. Key human impacts include drainage for agriculture; channelization for flood control; filling for housing, highway, industry and sanitary landfills; dredging for navigation channels, harbors and marinas; reservoir construction; timber harvest; peat mining; oil and gas extraction; strip mining; groundwater extraction; and various forms of water pollution and waste disposal. A few actions do, however, create wetlands. Construction of farm ponds and, in some cases, reservoirs and irrigation projects may increase wetland acreage, although valuable natural wetlands may be destroyed in the process. Marsh creation and restoration of previously altered wetlands can also be beneficial. Federal and state fish and wildlife agencies traditionally manage wetlands to improve their value to waterfowl. Wetland protection efforts serve to help maintain and enhance our Nation's wetland resources, despite mounting pressures to convert them to other uses.

Recent National Wetland Trends

Information on historical wetland gains and losses is limited and often subjective. The Service recently completed a scientifically sound study of the current status and recent trends of U. S. wetlands between the mid-1950's and mid-1970's (Frayer, et al. 1983). Although the results of this study are valid at the national level, few comparable statistics exist for individual states. The following discussions will summarize the results of the Service's national study and other regional studies. Specific problem areas where wetlands are in greatest jeopardy will be highlighted.

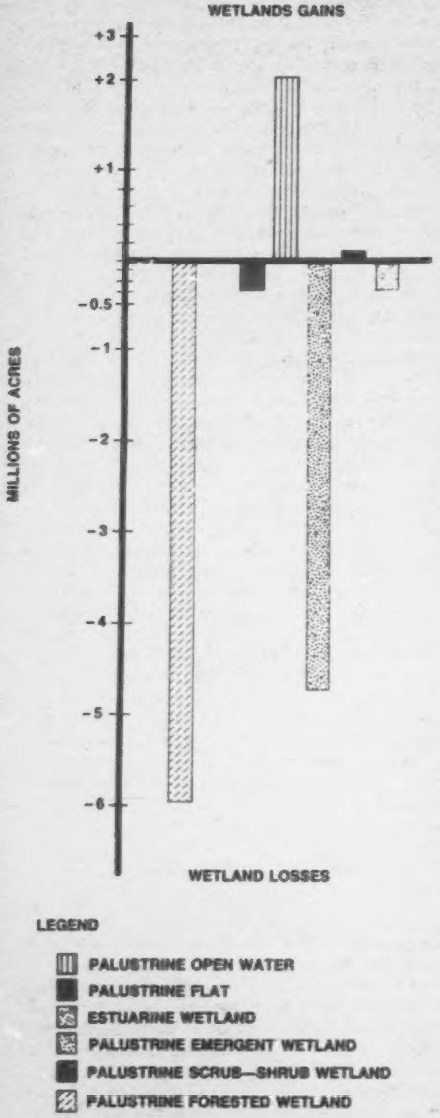


Fig. 28. Net losses and gains in wetlands of the conterminous U.S. between the mid-50's and mid-70's (from Frayer, et al. 1983).

Recent Gains

Slight net gains in deepwater habitats — manmade lakes and reservoirs and coastal waters — and in two wetland types — inland flats and ponds — took place between the mid-50's and mid-70's (Figure 28). Lake acreage increased by 1.4 million acres with 94% of this gain occurring in the eastern half of the country. These new lakes and reservoirs were mostly created from uplands, although vegetated wetlands were also destroyed. Some new wetlands, however, have formed along the edges of these new waterbodies.

During the same period, coastal open waters increased by 200,000 acres. Most of this gain came from Louisiana at the expense of coastal wetlands which are being permanently flooded at an accelerating rate. Causes of this change from marsh to open water are numerous and complicated and include natural rise of sea level, subsidence of the coastal plain, levee construction, channelization, and oil and gas extraction.

Two wetland types experienced gains between the mid-50's and mid-70's: inland flats and ponds. Two hundred thousand acres of unvegetated wetland flats and 2.1 million acres of ponds were created. Pond acreage nearly doubled from 2.3 million acres to 4.4 million acres, primarily due to farm pond construction in the Central and Mississippi Flyways. Most of this pond acreage came from former upland, although 145,500 acres of forested wetlands and 385,000 acres of emergent wetlands were changed to open water.

Recent Losses

Despite these modest gains, wetland losses were enormous. In the mid-1950's, there were an estimated 108.1 million acres of wetlands in the lower 48 states (Frayer, et al. 1983). Just 20 years later, these wetlands were reduced to 99 million acres, despite some gains in wetlands due to reservoir and pond construction, beaver activity, and irrigation and marsh creation projects. This loss of 9 million acres equates to an area about three times the size of Connecticut or twice the size of New Jersey. Actually, 11 million acres of our most valuable natural wetlands were destroyed, but these acreage losses were minimized by gains of 2 million acres of newly created wetlands, giving a net loss of 9 million acres. The average rate of wetland loss from the mid-50's to the mid-70's was 458,000 acres per year: 440,000 acres of palustrine losses and 18,000 acres of estuarine wetland losses. This annual loss equals an area about half the size of Rhode Island.

Agricultural development involving drainage was responsible for 87% of recent national wetland losses, while urban development and other development caused only 8% and 5% of the losses, respectively (Figure 29). Agriculture had the greatest impact on forested wetlands

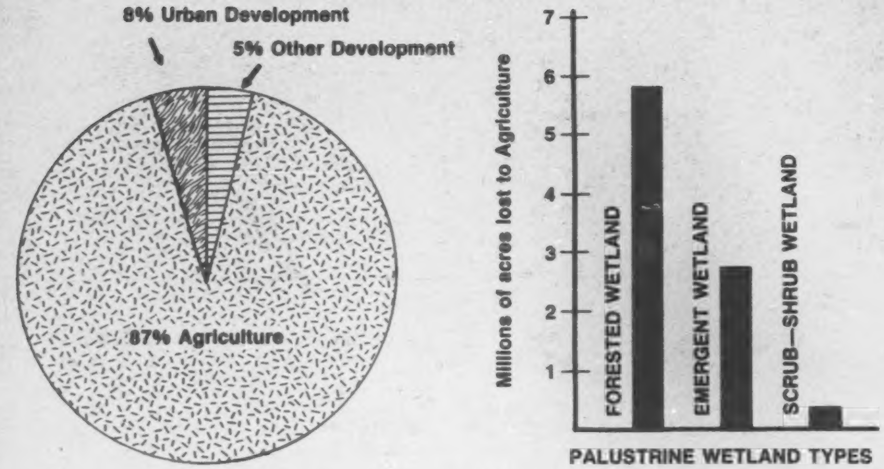


Fig. 29. Causes of recent wetland losses (mid-1950's to mid-1970's) in the conterminous U.S.; losses to agriculture are highlighted (from Frayer, et al. 1983).

and emergent wetlands, with losses of 5.8 and 2.7 million acres, respectively. In addition, 0.4 million acres of scrub-shrub wetlands were converted to agricultural use between the mid-50's and the mid-70's.

The most extensive wetland losses occurred in Louisiana, Mississippi, Arkansas, North Carolina, North Dakota, South Dakota, Nebraska, Florida and Texas. Greatest losses of forested wetlands took place in the Lower Mississippi Valley with the conversion of bottomland hardwood forests to farmland. Shrub wetlands were hardest hit in North Carolina where pocosin wetlands are being converted to cropland or pine plantations or mined for peat. Inland marsh drainage for agriculture was most significant in the Prairie Pothole Region of the Dakotas and Minnnesota, Nebraska's Sandhills and Rainwater Basin and Florida's Everglades. Between the mid-50's and mid-70's, estuarine wetland losses were heaviest in the Gulf states, i.e., Louisiana, Florida and Texas. Most of Louisiana's coastal marsh losses were attributed to submergence by coastal waters. In other areas, urban development was the major direct man-induced cause of coastal wetland loss. Dredge and fill residential development in coastal areas was most significant in Florida, Texas, New Jersey, New York and California.

Regional Historical Perspective

While the national decline in wetlands is dramatic, losses in particular regions and states are even more startling. For example, California has lost over 90% of its original wetland resource (U.S. Fish and Wildlife Service 1977). Less than 5% of Iowa's natural wetlands exist and over 90% of the wetlands in Nebraska's Rainwater Basin have been destroyed (Bishop 1981; Farrar 1982). Only 20% of the original bottomland hardwood forests in the Lower Mississippi Alluvial Plain remain (McDonald, et al. 1979). Other states with less than half of their original wetlands or certain types include Michigan, Minnesota, Louisiana, North Dakota, and Connecticut (Table 3). By 1955, Michigan had lost 8 million acres of wetlands (Michigan Department of Natural Resources 1982). Ohio, Indiana and Illinois probably have lost over half of their wetlands, but supportive statewide data are not available. In selected areas of Illinois, wetland losses have been dramatic. For example, virtually all wetlands have been eliminated in the East-Central Region, Big Prairie Region and Green River Watershed, while 98% of Illinois' southern bottomland swamps have been destroyed (Illinois Department of Conservation 1983).

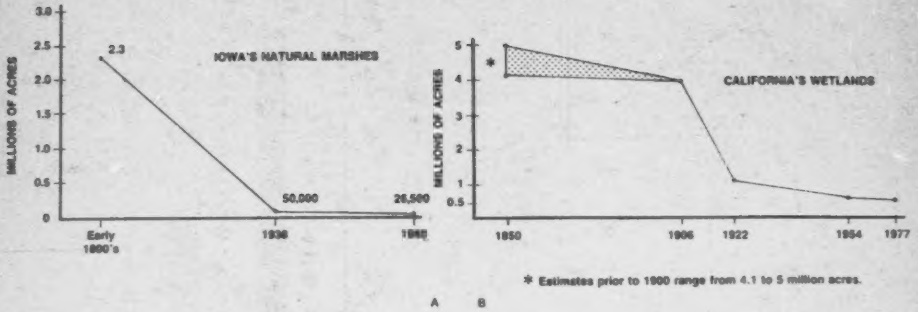


Fig. 30. Historical losses of wetlands in Iowa (a) and California (b) (from Bishop 1981 and U.S. Fish and Wildlife Service 1977).

In many areas, wetland destruction was greatest from the mid-1800's to the early 1900's due to passage of the Swamp Land Acts of 1849, 1850, and 1860. These acts granted all swamp and overflow lands to 15 states: Alabama, Arkansas, California, Florida, Illinois, Indiana, Iowa, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Ohio, Oregon and Wisconsin (Shaw and Fredine 1956). These states were to drain these wetlands for agriculture by constructing levees and drainage ditches. About 65 million acres had been transferred from the Federal government to the states by 1954. Historical losses of Iowa's and California's wetlands illustrate accelerated wetland destruction in the late 1800's and early 1900's (Figure 30).

The original 13 states had retained all lands within their borders when the Federal government was established and Texas also kept all its land at the time of annexation. Interestingly, the extensive coastal wetlands of these 14 states were never owned by the Federal government and, by contrast, coastal wetland losses have been more recent. Between 1954 and 1978, the loss rate of coastal wetland doubled due primarily to post-war urban and industrial development in the U.S. coastal zone and to accelerated erosion and subsidence of Louisiana's vast coastal marshes (Gosselink and Baumann 1980).

While wetland losses in some states or regions may have been heaviest at the turn of the century, loss rates remain high in many areas. Between 1955 and 1978, Kansas lost 40% of its wetlands (Elliott, U.S.F.W.S., pers. comm.). In Illinois, an estimated 20% of its wetlands are destroyed every decade (Great Lakes River Basin Commission 1981). About 6.7 million acres of Ohio's original wetlands have been drained, while over half of its wetlands along Lake Erie have been destroyed since 1954 (Weeks 1974). Kentucky's wetlands along the Mississippi and Ohio Rivers have been reduced by 37% in the past twenty years (Kentucky Department of Fish and Wildlife Resources 1983). Heavy annual losses are continuing in the bottomland hardwood forested wetlands of the Lower Mississippi Delta and accelerating in pocosin wetlands along the North Carolina coast (MacDonald, et al. 1979; Richardson, et al. 1981). Some examples of recent wetland loss rates are shown in Table 4.

Recent trends in Delaware, Maryland, and New Jersey illustrate the effect of state wetland protection. Before passage of the Wetlands Act in 1973, Delaware was losing almost 450 acres of estuarine wetland each year. After the law, losses dropped to just 20 acres annually (Hardisky and Klemas 1983). Coastal wetland losses in Maryland and New Jersey were also drastically reduced through wetland regulations. In addition to state laws, the Clean Water Act added a level of Federal protection to these wetlands nationwide in the early 1970's. Effective implementation of similar laws in other states has probably reduced wetland losses substantially.

Current Regional Development Pressures

In the Northeast, coastal wetlands are now well protected by state laws. Inland wetlands, however, continue to be vulnerable to development pressures in many areas, although they are protected to varying degrees by the Federal government through the Clean Water Act and by a few states with wetland protection laws. Urbanization seriously threatens inland wetlands in northern New Jersey and near other growing urban centers. Peat mining and resort development are major causes of wetland losses in the Pocono Region of Pennsylvania. Agricultural impacts are greatest in the bottomland hardwood swamps of Delaware, Maryland and Virginia and in New York's mucklands.

Agricultural drainage of wetlands is continuing to destroy large tracts of wetlands in the Southeast, especially in the Lower Mississippi Delta, Florida, and along the coastal plain of North Carolina. Bottomland hardwoods are being clearcut for timber, and then cleared and drained for crop production, chiefly soybeans. Pocosin wetlands are similarly used as well as being mined for peat. Many inland wetlands are being converted to pine plantations throughout the Southeast. Phosphate mining in Florida and North Carolina is destroying considerable wetland acreage. Puerto Rico's inland marshes ("savannahs") are being transformed into sugar cane farms. Coastal wetland destruction has slowed in most states with passage of protection laws, but enforcement may present problems.

Agricultural development in the Midwest corn belt and Great Plains remains the greatest threat, by far, to the remaining inland wetlands. Coastal marshes along the Great Lakes are continuing to be impacted by industrial, residential, and agricultural development. Although several of the Midwestern states have laws protecting certain wetlands or regulating certain activities in wetlands, agricultural drainage is still largely unregulated.

In the western states, agricultural development remains the primary threat to wetlands. Drainage and irrigation impacts, such as the Garrison Diversion, continue at high

Table 3. *Examples of wetland losses in various states.*

State or Region	*Original Wetlands (acres)*	*Today's Wetlands (acres)*	*% of Wetlands Lost*	*Source*
Iowa's Natural Marshes	2,333,000	26,470	99	Bishop (1981, pers. comm.)
California	5,000,000	450,000	91	U.S. Fish and Wildlife Service (1977)
Nebraska's Rainwater Basin	94,000	8,460	91	Farrar (1982)
Mississippi Alluvial Plain	24,000,000	5,200,000	78	MacDonald, et al. (1979)
Michigan	11,200,000	3,200,000	71	Michigan Department of Nat. Res. (1982)
North Dakota	5,000,000	2,000,000	60	Elliott, U.S. FWS, (pers.comm.)
Minnesota	18,400,000	8,700,000	53	Univ. of Minn.(1981)
Louisiana's Forested Wetlands	11,300,000	5,635,000	50	Turner and Craig (1980)
Connecticut's Coastal Marshes	30,000	15,000	50	Niering (1982)
North Carolina's Pocosins	2,500,000	1,503,000*	40	Richardson, et al. (1981)
South Dakota	2,000,000	1,300,000	35	Elliott, U.S. FWS, (pers.comm.)
Wisconsin	10,000,000	6,750,000	32	Wisconsin Dept. of Nat. Res. (1976)

*Only 695,000 acres of pocosins remain undisturbed; the rest are partially drained, developed or planned for development.

Table 4. *Examples of recent wetland loss rates.*

State or Region	*Loss Rate (acres/year)*	*Source*
Lower Mississippi Alluvial Plain	165,000	MacDonald, et al. (1979)
Louisiana's Forested Wetlands	87,200	Turner and Craig (1980)
North Carolina's Pocosins	43,500	Richardson, et al. (1981)
Prairie Pothole Region	33,000	Haddock and DeBates (1969)
Louisiana's Coastal Marshes	25,000	Fruge (1982)
Great Lakes Basin	20,000	Great Lakes River Basin Comm. (1981)
Wisconsin	20,000	Wisconsin Department of Natural Resources (1976)
Michigan	6,500	Weller (1981)
Kentucky	3,600	Kentucky Department of Fish & Wildlife Resources (1983)
New Jersey's Coastal Marshes	3,084 50*	Ferrigno, et al. (1973) JACA Corporation (1982)
Palm Beach County, Florida	3,055	U.S. Fish and Wildlife Service (1982)
Maryland's Coastal Wetlands	1,000 20*	Redelfs (1983)
New York's Estuarine Marshes	740	O'Connor and Terry (1972)
Delaware's Coastal Marshes	444 20*	Hardisky and Klemas (1983)

* Loss rate after passage of state coastal wetland protection laws.

rates. With increased tension over water rights, remaining wetlands may be deprived of sufficient quantities of water to function properly. This is especially true in Colorado where high population growth has increased demand for water. Urban and industrial development is destroying wetlands along the Great Salt Lake and near other urban centers.

Along the West Coast, coastal wetlands are generally protected by state laws, yet they are still under heavy pressure for urban and industrial development. Inland wetlands remain subject to agricultural pressures, particularly in California's Central Valley and the Great Basin of Nevada, Oregon, and Idaho. Degradation of existing wetlands through urban and agricultural runoff remains a problem.

Alaska's wetlands were once subject to very few development pressures. With the discovery of significant deposits of oil and gas and the subsequent pipeline construction and energy development, many wetlands have recently been altered. The oil boom has also increased human population densities, resulting in increased pressure on wetlands for urban development. Increases in timber harvest, mining, and agricultural activities are also threatening large areas of wetland in Alaska.

National Problem Areas

While wetland losses and degradation continue throughout the country, there are several areas where wetlands are in greatest jeopardy from a national standpoint. These areas and their threatened wetland types include: (1) estuarine wetlands of the U.S. coastal zone, (2) Louisiana's coastal marshes, (3) Chesapeake Bay's submerged aquatic beds, (4) South Florida's palustrine wetlands, (5) Prairie Pothole Region's emergent wetlands, (6) wetlands of Nebraska's Sandhills and Rainwater Basin, (7) forested wetlands of the Lower Mississippi Alluvial Plain, (8) North Carolina's pocosins, and (9) western riparian wetlands. Most of these regions are under intense pressure from agricultural interests, while the effect of urbanization and industrial development is more localized. Northern New Jersey is used to illustrate these non-agricultural impacts. The following subsections summarize the nature of these national problems.

Estuarine Wetlands of the U.S. Coastal Zone

Estuarine marshes and mangrove swamps are highly regarded for their commercial and recreational fisheries value. Protecting these wetlands has, however, only recently received national attention. In the past, coastal wetlands were viewed chiefly as potential sites for development. Between the 1950's and the mid-1970's, wetland losses were heaviest (Figure 31). The National Marine Fisheries Service (1983) estimated annual fishery losses at $208 million due to estuarine marsh losses from 1954 to 1978. Accelerating wetland destruction aroused much public concern which led to the passage of tidal wetland protection laws in many coastal states and to stricter enforcement of existing Federal laws in the 1960's and the 1970's. Unfortunately, over half of the coastal wetlands in the lower 48 states have been destroyed. Nonetheless, estuarine wetlands are still sought after by developers for residential and resort housing, marinas, and other uses.

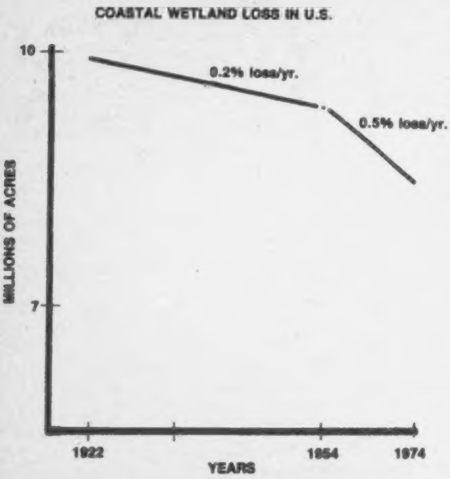


Fig.31. Rate of coastal wetland loss in the conterminous U.S. (from Gosselink and Baumann 1980). Estimates include both estuarine and tidal freshwater wetland losses.

Estuarine wetland losses have been greatest in 5 states: California, Florida, Louisiana, New Jersey and Texas. Louisiana is losing them at a rate of 25,000 acres per year due to coastal subsidence and other causes (Fruge 1982; see the following subsection for discussion). Outside of Louisiana, coastal wetland losses are directly related to population density (Gosselink and Baumann 1980). Urbanization (i.e., residential home construction) has been responsible for over 90% of the losses directly attributed to human activites (Figure 32; Frayer, et al. 1983). Accelerated urban development and increased groundwater withdrawals have resulted in salt water contamination of public water supplies in many coastal communities.

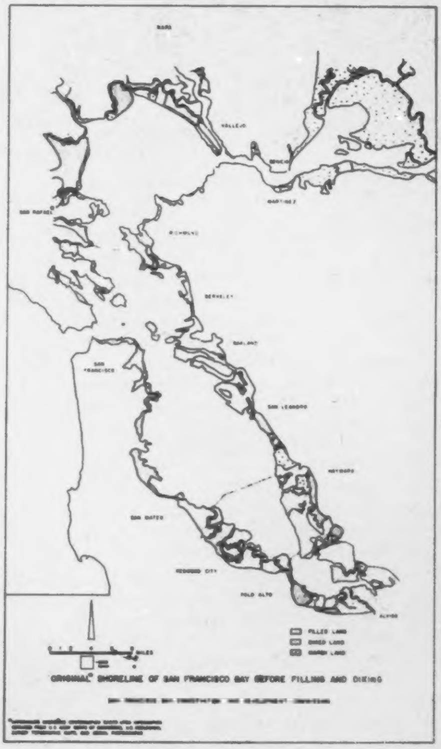
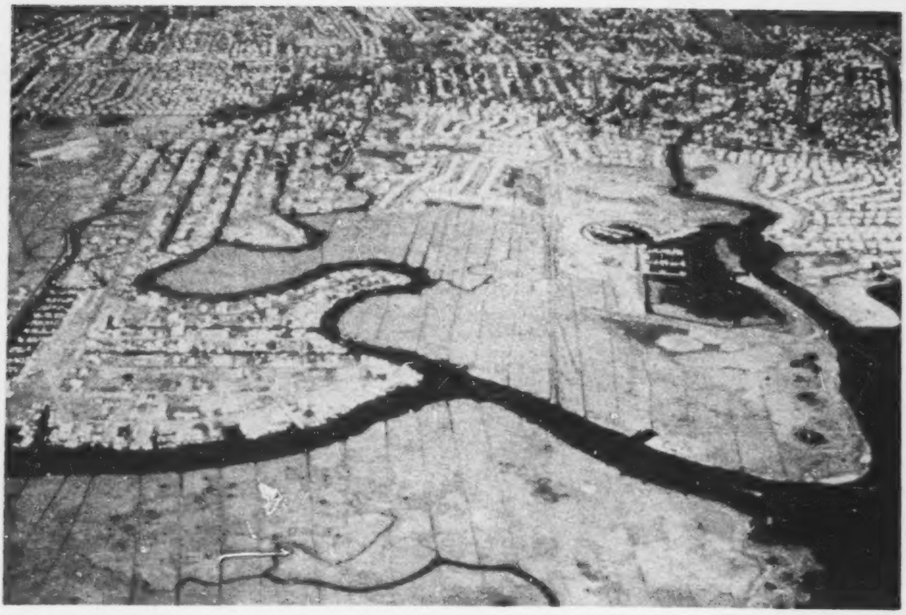


Fig.33. The status of wetland filling and diking in San Francisco Bay prior to the mid-1960's (from Hedgpeth 1978).



Dole

Fig. 32. Filling of estuarine wetlands for residential housing in Long Island, New York and other coastal areas was particularly heavy in the 1950's and 1960's. Wetland laws in most coastal states now protect these valuable wetlands.

While most of the coastal wetlands exist along the Alaskan, Atlantic and Gulf coasts, San Francisco Bay represents an interesting example of tidal wetland alteration. San Francisco Bay is an important wintering area for waterfowl, especially whistling swans, pintails, shovelers, canvasbacks, scaup, and ruddy ducks. About 25% of the continent's population of whistling swans winter here as does roughly 40% of North America's ruddy ducks (Bellrose 1976). Originally, more than 200,000 acres of coastal marshes existed in the Bay region. Today, less than 20% remain (U.S. Fish and Wildlife Service and California Department of Fish and Game 1979). Most of the original wetlands were filled for urban and industrial development, while many remaining tidal marshlands were diked to create salt-evaporating ponds (Figure 33). Since 1976, coastal wetlands have been protected through the California State Coastal Act, while the San Francisco Bay Conservation and Development Commission has been active in wetlands preservation since 1969. Efforts are now needed to restore degraded or modified wetlands to a more natural condition, so that they can once again serve as valuable fish and wildlife habitats.

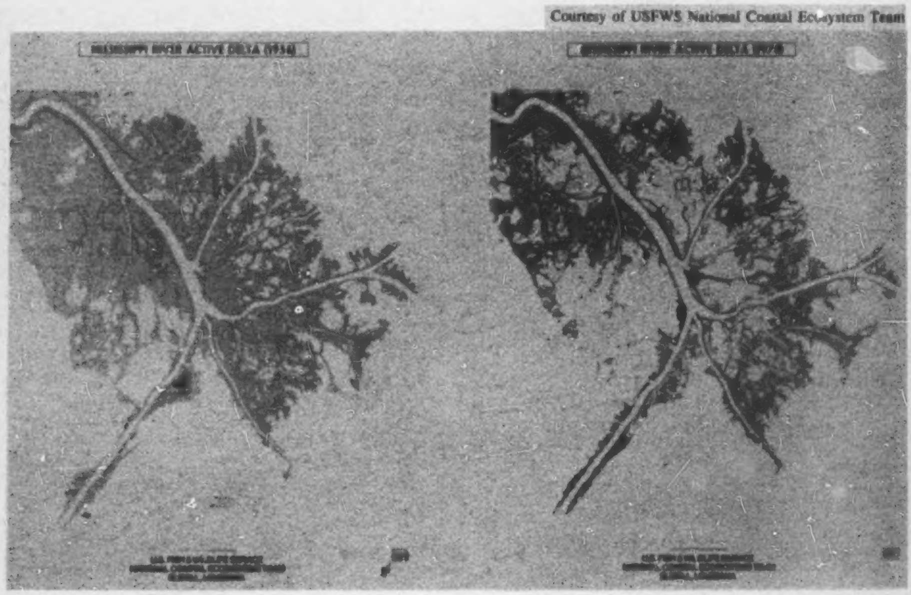
All coastal states in the lower 48, except Texas, have enacted special laws to protect estuarine wetlands. These laws vary considerably in their degree of protection, since a few exempt major activities that alter wetlands or apply only to state-owned lands. Section 10 of the River and Harbor Act of 1899 and Section 404 of the Clean Water Act of 1977 mandate a strong Federal role for protecting the Nation's coastal wetlands. Federal permits are required for most types of construction in estuarine wetlands. While the regulatory tools to protect coastal wetlands are in place, continued enforcement of existing laws is required to maintain the integrity of the remaining wetlands. In addition to regulation, the Coastal Barrier Resources Act of 1982 removes Federal subsidies and discourages development of approximately 700 miles of designated coastal barriers and adjacent wetlands. Its greatest impacts in reducing coastal wetland loss should occur in Alabama, Florida, North and South Carolina and Texas.

Louisiana's Coastal Marshes

Louisiana possesses roughly one-third of the coastal marshes in the conterminous U.S. (Turner and Gosselink 1975). The state's multi-million dollar commercial inshore shrimp fishery is directly proportional to the area of intertidal emergent wetland (Turner 1979). Along most coasts, salt marshes appear to be maintaining themselves through marsh building or accretion despite a worldwide rise in sea level. In Louisiana, however, this is not true as large expanses of coastal marshes are being permanently flooded by rising sea level (Figure 34). Vertical marsh accretion has not kept pace with coastal submergence over the past 30 years. The marsh is accreting at a rate of 0.33 inches yearly, while submergence is occurring at 0.5 inches per year (DeLaune, et al. 1983). The rate of subsidence here is more than five times as high as the average rate of global sea level rise over the past century (Boesch, et al. 1983). Currently, an estimated 40 square miles or 25,000 acres of coastal marshes are lost each year (Fruge 1982). Besides direct losses, salt water intrusion is killing freshwater vegetation in tidal freshwater marshes and converting these types to more brackish wetlands or open water. It also has accelerated the advance of the predaceous oyster drill into productive oyster beds.

The causes of Louisiana coastal marsh loss are numerous and complicated (Craig, et al. 1980). A combination of factors both natural and man-induced are responsible. Coastal subsidence, rise in sea level and the cyclical processes of Mississippi River Delta growth and deterioration represent the major natural forces. The Mississippi River is trying to shift its course into the Atchafalaya River, but the U.S. Army Corps of Engineers is only allowing 30% of the Mississippi and Red River flows to be moved down the Atchafalaya. This is still enough to get some marsh building in Atchafalaya Bay. An estimated 120,000 acres of marsh will be created here in the next 30 to 50 years, but this will not offset heavy marsh losses in other areas of Louisiana (Louisiana State University 1983). Man's impacts include channelization and levee construction along the Mississippi River, canal dredging for navigation and energy operations, and subsidence from extraction of groundwater, minerals, oil and gas. Channelization and canal construction have increased marsh erosion and salt water intrusion along the coast. Man-made levees have disrupted the natural marsh building process by preventing overflow of sediment rich waters.

Efforts must be made to reduce man's adverse impacts on Louisiana's coastal marshes. Specific wetland preservation and restoration actions should be taken immediately. These actions include diverting Mississippi and Atchafalaya River flows into areas experiencing salt water intrusion and accelerated wetland loss, creation of new marsh through careful placement of dredged material, improved water management in existing marsh areas, and reducing petroleum industry canal dredging through increased use of directional drilling. Future research studies should improve our understanding of the importance of causal factors and address mechanisms to improve the future for this rapidly diminishing resource.



Courtesy of USFWS National Coastal Ecosystem Team

Fig. 34. Louisiana's coastal marshes are being permanently flooded by Gulf of Mexico waters at an accelerating rate. Example shows marsh changes between (a) 1956 and (b) 1978.

Chesapeake Bay's Submerged Aquatic Beds

Situated in eastern Maryland and Virginia, Chesapeake Bay is the largest estuary in the United States. Many rivers drain into the Bay including the Susquehanna, Potomac, Patuxent, James, York and Chester (Figure 35).

The Bay once represented the primary overwintering area for canvasback ducks which fed on submerged aquatic vegetation (Figure 36). Fifty percent of the Atlantic Flyway population of canvasbacks were found in the Bay region (Stevenson and Confer 1978). While still among the more important overwintering areas for canvasbacks, Chesapeake Bay is the single most important wintering ground in North America for whistling swans (Bellrose 1976). Canada geese and black ducks also use the Bay area in winter. Aquatic grass beds provide spawning areas for estuarine-dependent fishes like striped bass, shad and herring and offer shelter for their young. Important submerged plants include pondweeds, redhead grass, eelgrass, wild celery, waterweed, naiads, muskgrasses and Eurasian milfoil.

Sea grass beds in the Bay have been declining since the 1960's. According to a recent study (Stevenson, et al. 1979) in Maryland, submerged aquatic vegetation decreased by almost 65% from 1971 to 1978. A similar decline has also been observed in Virginia waters. At the mouth of the Susquehanna River, submerged grasses at a

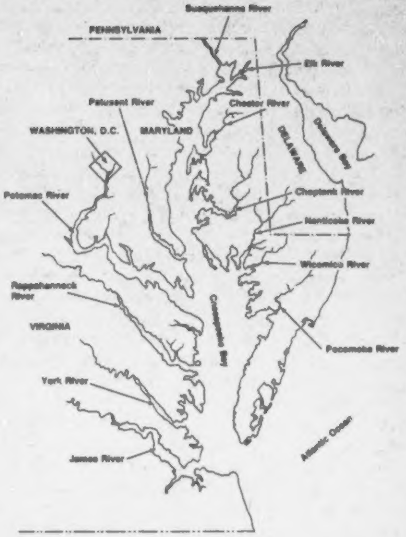

Susquehanna River
PENNSYLVANIA
Elk River
Patuxent River
Chester River
WASHINGTON, D.C.
MARYLAND
DELAWARE
Delaware Bay
Potomac River
Choptank River
Nanticoke River
Wicomico River
Rappahannock River
VIRGINIA
Chesapeake Bay
Pocomoke River
York River
Atlantic Ocean
James River

Fig. 35. Chesapeake Bay and its major tributaries.

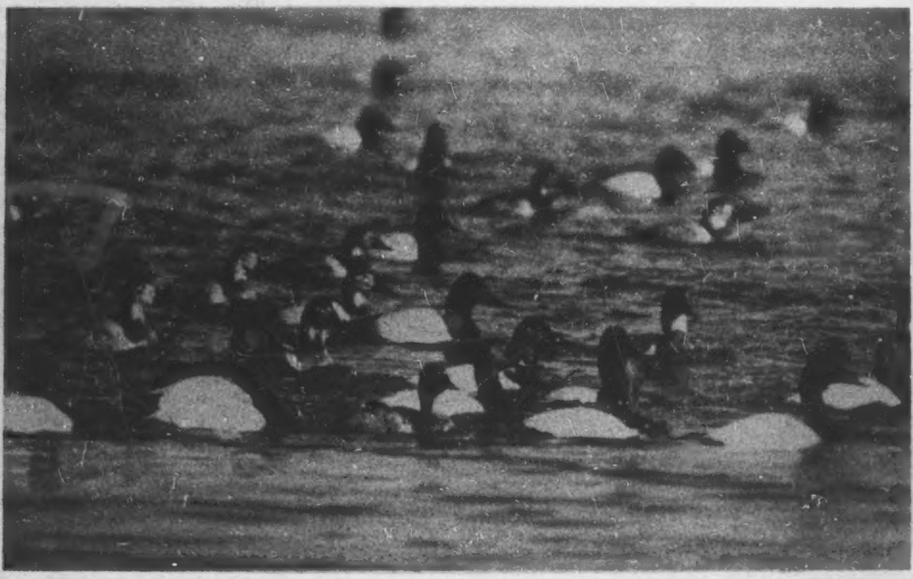


Fig. 36. Chesapeake Bay is one of the more important wintering areas for canvasbacks in North America.

once prime waterfowl feeding area have virtually disappeared since 1971. Other areas have experienced declines in the numbers of plant species present. Since 1978, submerged aquatic vegetation appears to have stabilized, with a few areas even showing a slight increase (Orth and Moore 1981). Reductions in submerged vegetation have probably been the most important wintering habitat change which have led to declines in local populations of canvasbacks and redheads (Perry, et al. 1981). These changes point to a stressed ecological system.

Although the causes of this vegetation decline are hard to pinpoint, researchers suggest a combination of natural and human-induced factors. Natural stresses include overgrazing by carp and cownose rays, Hurricane Agnes, a general warming of Bay waters, and natural diseases. In June 1972, Hurricane Agnes hit the Bay region. Its heavy rainfall lowered salinity in Chesapeake Bay and buried numerous grass beds with sediment carried by runoff. Human impacts on the submerged vegetation are largely from two general sources of water pollution: point and nonpoint sources. Point source pollution comes mainly from industrial and sewage treatment plant discharges, while nonpoint sources include failing septic systems, agricultural runoff or urban runoff. These sources cause increased turbidity and sedimentation, nutrient overloading, and chemical pollution which have reduced or eliminated aquatic beds from many areas. Channelization projects in bottomland hardwood forested wetlands have undoubtedly contributed to the problem by accelerating the discharge of agricultural runoff and eroded soil into the Bay.

The problem of the Bay's submerged aquatic vegetation is receiving special attention from the U.S. Environmental Protection Agency (EPA) and others. EPA established a Chesapeake Bay program to address this problem. Future studies should increase our understanding of the causes of the decline of submerged aquatic vegetation and will hopefully lead to improved watershed management to restore and maintain a healthy Chesapeake Bay. Meanwhile, the governors of Maryland, Pennsylvania and Virginia have joined together to address water quality problems in the Chesapeake Bay watershed. Only through interstate coordination and action can the Bay's problems be solved.

South Florida's Palustrine Wetlands

South Florida encompasses a 9,000 square mile area of lakes, rivers and wetlands which extends from Orlando south to the Florida Keys. While the Everglades dominates this region, Big Cypress Swamp, the Kissimmee River and Lake Okeechobee are equally important. Freshwater runoff from this area helps maintain the salinity balance of estuaries which support 85% of South Florida's offshore fishery (Yates 1982). The wetlands are breeding grounds for many birds, notably wood and other ibises, roseate spoonbills, herons, egrets and Florida ducks. They also support winter populations of numerous waterfowl, especially lesser scaups, ringnecks, blue-winged teal, canvasbacks, and wigeons. Rare and threatened animals depend on these wetlands, including the Florida panther, American crocodile, manatee, brown pelican, Everglades kite and southern bald eagle. The Everglades National Park was established to protect these natural resources.

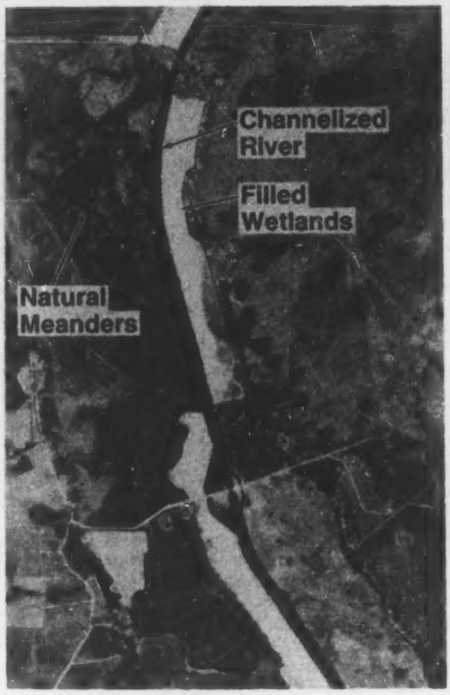


Fig. 37. Channelization of the Kissimmee River directly destroyed many wetlands and facilitated drainage of more than 100,000 acres of wetlands.

South Florida's waters and wetlands have been subjected to various uses for many years (Yates 1982). In the 1920's, large wetland areas were drained and converted to sugar cane farms. Severe floods in 1928, 1947 and 1948 stimulated a massive flood control project in South Florida. The Central and Southern Florida Flood Control Project, authorized by Congress, required the U.S. Army Corps of Engineers to construct a network of nearly 800 miles of new or improved levees and 500 miles of canals.

This project completed drainage of the Kissimmee River wetlands, regulated Lake Okeechobee's water levels and drained and irrigated the Everglades Agricultural Area. Channelization directly destroyed 40,000 acres of wetlands and facilitated drainage of more than 100,000 acres of contiguous wetlands (Figure 37; Thompson 1983). By reducing floods, the flood control project also accelerated filling of wetlands for urban expansion of coastal cities, especially in Dade, Broward and Palm Beach Counties, as well as increasing agricultural conversion of wetlands (Figure 38). For example, between 1972 and 1980, Palm Beach County lost 23,767 acres of wetlands to agriculture and 655 acres to urban development (U.S. Fish and Wildlife Service 1982) for a 7% wetland loss in just 8 years.

Problems related to water supply have also resulted from this flood control project. Although three large impoundments called "conservation areas" were constructed to maintain recharge of the Biscayne Aquifer and prevent salt water intrusion into public drinking water supplies, salt water intrusion remains a constant threat. Urban growth and agricultural development increase demand for water. Public wells have been constructed further west which have lowered the Everglades water table and have increased the flow of salt water into the Biscayne Aquifer. Besides public water supply problems, the flood control project has also seriously disrupted the natural hydrologic regime of the Everglades National Park. Levee L-29 completely blocked sheet flow of freshwater into the Park in 1963. After much controversy and public debate, the Corps of Engineers in 1970 agreed to release a minimum of 315,000 acre-feet of water annually (Yates 1982). Park officials estimate that at least twice this amount is needed and that the water must be distributed over a wider area and be released on a more natural regime. These changes are necessary to preserve the biological integrity of the Everglades National Park.

Wetland alterations in South Florida have created problems for many fish and wildlife species. Periodic discharges of freshwater from the conservation areas have disrupted fish nursery grounds in estuaries. Colonial wading bird populations have declined from about 1.5 million in 1935 to about 0.25 million today. Alligators have been eliminated from many areas and frog populations have been critically reduced from a commercial harvesting standpoint (Marshall 1981).

Possible effects of the Kissimmee River channelization and wetland drainage on local rainfall patterns have also been raised. Although quite controversial, some scientists have suggested that wetland drainage in South Florida has reduced the mist of evaporation and plant transpiration which triggers rainfall from sea breezes. This condition may be responsible for recent severe droughts.

In 1976, the Florida legislature passed a mandate to restore the Kissimmee River. They recognized that channelization of this river among other things: increased the seriousness of water shortages and droughts, degraded water quality of Lake Okeechobee, eliminated vast acreages of wetlands, drastically reduced fish and wildlife populations and destroyed a beautiful, meandering river (Florida Conservation Foundation 1977). Ironically, the flood control project actually increased the potential for catastrophic floods and raised costs to ranchers and farmers. Florida's Save Our Rivers Act of 1981 created state funds to purchase threatened wetlands. The Nature Conservancy, the Richard King Mellon Foundation, and National Audubon Society have also been active in wetland acquisition. In 1983, Governor Graham announced a multi-million dollar "Save Our Everglades" program to restore the ecology of the Everglades, which includes acquisition of 250,000 acres of wetlands and improving hydrology (Thompson 1983). He also stressed the importance of Federal-state cooperation in achieving this goal. These efforts should be instrumental in preserving these fragile wetlands and their associated values.

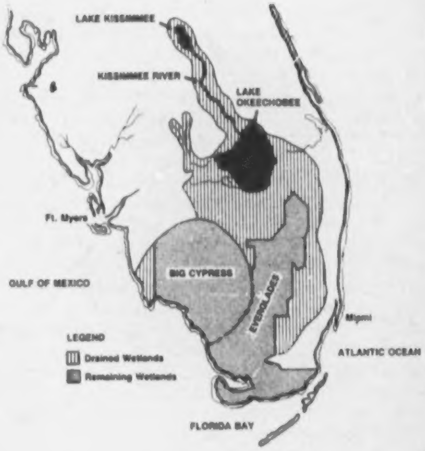


Fig. 38. Present extent of wetlands in the Florida Everglades; former wetlands are also shown (from Marshall 1981).

Prairie Pothole Region's Emergent Wetlands

Prairie potholes are the most valuable inland marshes for waterfowl production in North America (Figure 39). Although the Pothole Region accounts for only 10% of the continent's waterfowl breeding area, it produces 50% of the duck crop in an average year and more than that in wet years (Smith, et al. 1964). The Prairie Pothole Region extends from south-central Canada to north-central United States, covering about 300,000 square miles with roughly one-third in the United States. Due to glaciation thousands of years ago, the landscape is pock-marked with millions of pothole depressions, mostly less than two feet deep. These pothole wetlands serve as primary breeding grounds for many kinds of ducks including: mallard, pintail, wigeon, gadwall, shoveler, teal, canvasback, and redhead. For example, in a study area in northeastern South Dakota, researchers found an average of 140 ducks produced per square mile per year (Evans and Black 1956).

In North and South Dakota, pothole wetlands originally covered 7 million acres. Today, only slightly more than 3 million acres remain. Over half have been destroyed by agriculture, irrigation and flood control projects (Elliott pers. comm.). Iowa has lost more than 99% of its natural marshes (Bishop pers. comm.). Approximately 9 million acres of potholes have been drained in Minnesota (Figures 40 and 41). Since pothole wetlands are surrounded by farmland, they have been drained to create additional cropland, mostly for wheat in the west and corn in the east. Drainage in the Dakotas is largely done by open ditching in contrast to both open ditching and tile drainage in Minnesota and Iowa. These ditches drain into intermittent streams or highway right-of-way ditches. Highway ditches have been heavily used by local farmers to help drain wetlands. In western Minnesota alone, nearly 100,000 acres of wetland have been lost in this way (U.S. Fish and Wildlife Service 1975). In addition, stream channelization sponsored by Federal flood control projects, such as the small watershed protection and flood prevention program (P.L. 83-566), have led to accelerated wetland drainage in the Pothole Region as they have elsewhere in the U.S. (Erickson, et al. 1979). Drainage data for the Dakotas and Minnesota obtained from the U.S. Department of Agriculture's Production and Marketing Administration show that 188,000 acres were drained with Federal assistance in 1949 and 1950 alone. Countless other acres were privately drained at the same time (Figure 42). Pothole wetland losses are estimated at more than 33,000 acres yearly (Haddock and DeBates 1969). Among the remaining wetlands, the drier

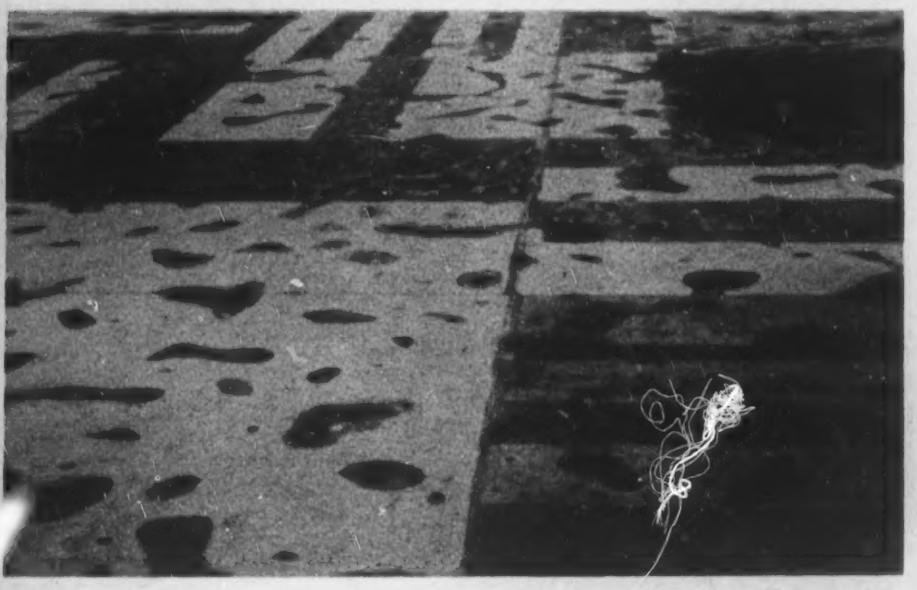


Fig. 39. Prairie pothole wetlands are the Nation's most valuable waterfowl production areas, (a) aerial view of potholes and (b) blue-winged teal.

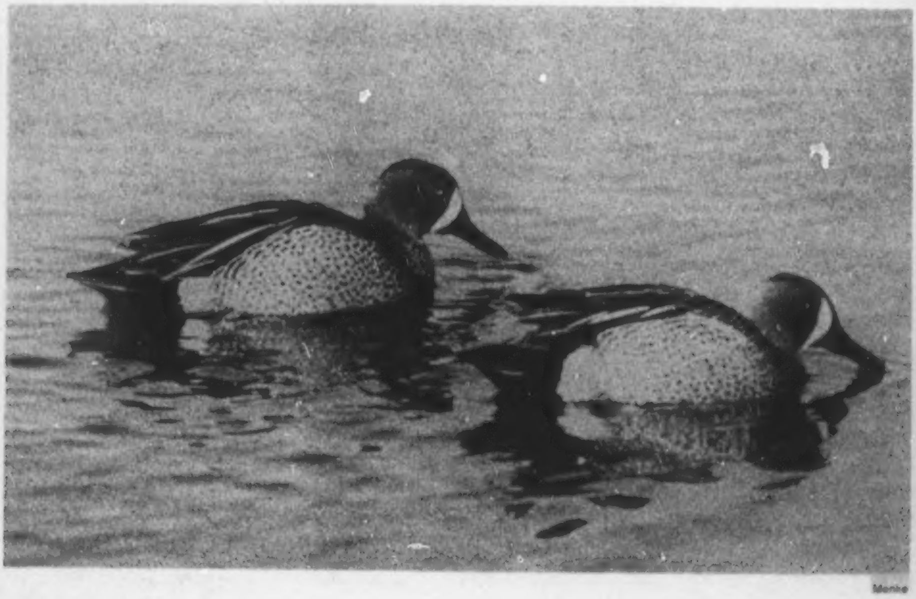
ones (i.e., temporarily flooded) are often tilled during dry periods of the natural hydrologic cycle.

Drought in the Prairie Pothole Region is largely responsible for declines in waterfowl breeding populations. Drainage of potholes may have a similar but more lasting effect on breeding waterfowl. Each pothole drained leads to a further concentration of the breeding waterfowl population. This could result in decreased productivity, reduced size of the breeding population, and/or increased likelihood of diseases like avian cholera and botulism. Wetland drainage also destroys habitats important to invertebrates used as food by breeding waterfowl like pintail and blue-winged teal (Krapu 1974; Swanson, et al. 1974). Moreover, drainage eliminates the flood storage value of pothole depressions, thereby increasing flooding problems as in the James River basin of North Dakota (Sidle 1983).

Agricultural activities on upland adjacent to potholes have also adversely impacted waterfowl production. Upland grasses bordering wetlands provide valuable nesting cover for mallard and other dabbling ducks. Conversion of rangeland to cropland, which destroys these nesting areas, has been accelerating. Between 1965 and 1975, approximately one half of the rangeland in the Coteau du Missouri counties of North Dakota were converted to cropland (U.S. Fish and Wildlife Service 1984).

Excavation of ponds (dugouts) in pothole wetlands is also a problem. Out of an estimated 55,855 dugouts in eastern South Dakota in 1976, 77% were in wetland basins or streams (McPhillips, et al. 1983). Excavation and spoil deposition alter wetland hydrology which may reduce waterfowl usage. More research is needed to evaluate potential impacts.

The Fish and Wildlife Service has been active in preserving Prairie Pothole wetlands through acquisition, easement, and other programs. Recently, wetland acquisition in North Dakota was stopped for several years by state law. Due to a U.S. Supreme Court ruling against the state for this action, the Service's wetland acquisition is being resumed. The Federal government generally regulates filling of pothole wetlands 10 acres in size or larger, yet smaller isolated wetlands are largely unprotected. A 1984 settlement agreement between the Corps of Engineers and various environmental groups (National Wildlife Federation v. Marsh) provides an opportunity to improve regulation of agricultural conversion of pothole wetlands. The Service's acquisition and easement program and improved Federal regulation are needed to maintain valuable waterfowl producing wetlands, since pressures continue to convert such areas to agriculture.



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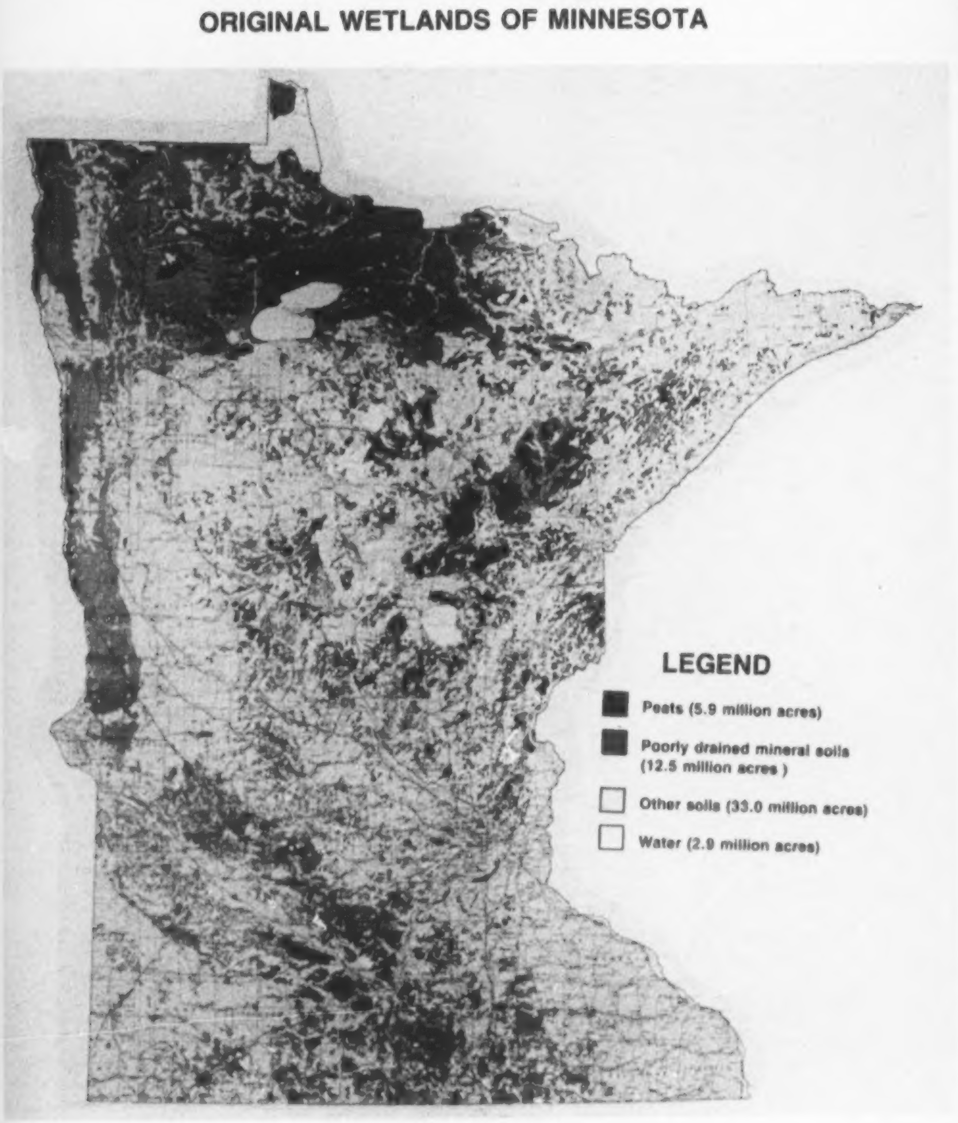

ORIGINAL WETLANDS OF MINNESOTA
LEGEND
■ Peats (5.9 million acres)
■ Poorly drained mineral soils (12.5 million acres)
☐ Other soils (33.0 million acres)
☐ Water (2.9 million acres)

Fig. 40. Original extent and distribution of Minnesota's wetlands (University of Minnesota 1981).

EXISTING WETLANDS OF MINNESOTA

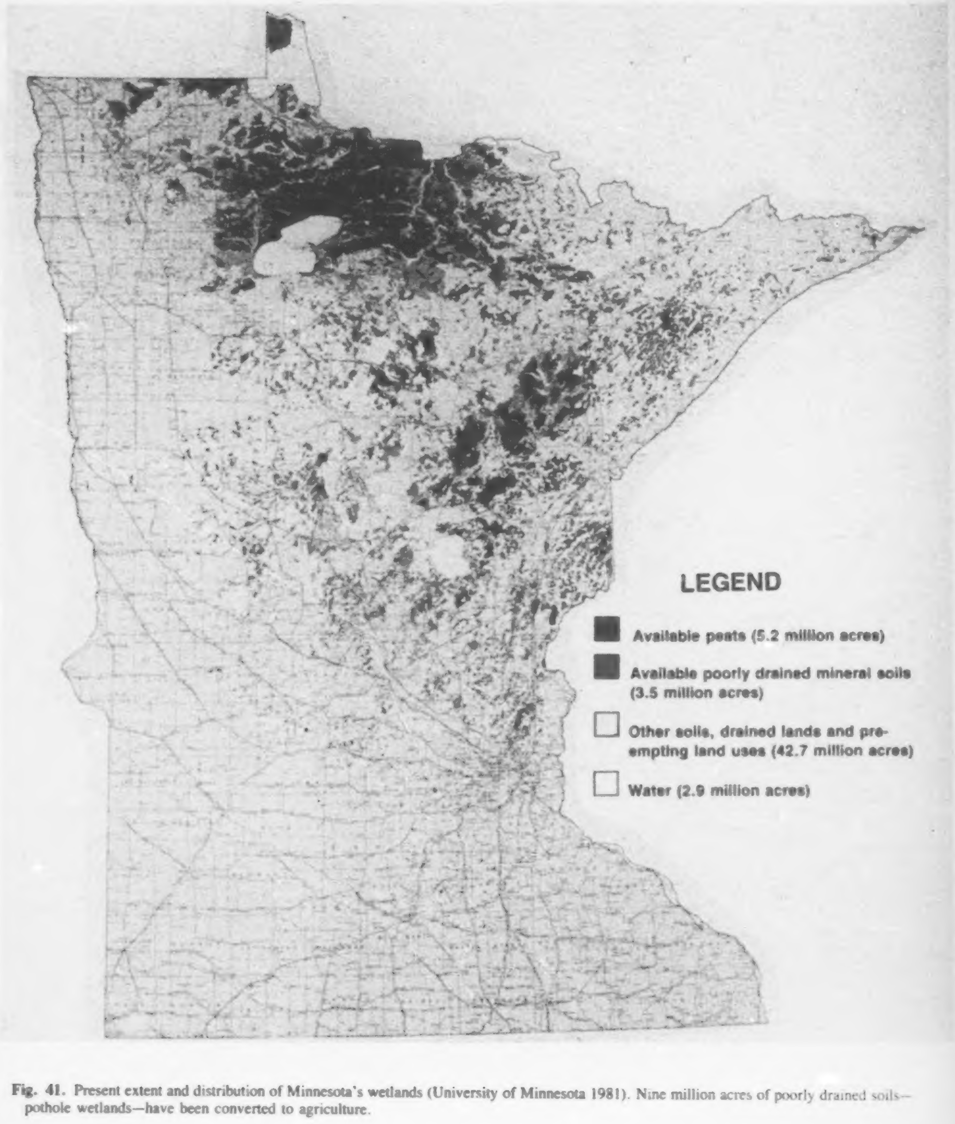

LEGEND
■ Available peats (5.2 million acres)
■ Available poorly drained mineral soils (3.5 million acres)
☐ Other soils, drained lands and preempting land uses (42.7 million acres)
☐ Water (2.9 million acres)

Fig. 41. Present extent and distribution of Minnesota's wetlands (University of Minnesota 1981). Nine million acres of poorly drained soils—pothole wetlands—have been converted to agriculture.

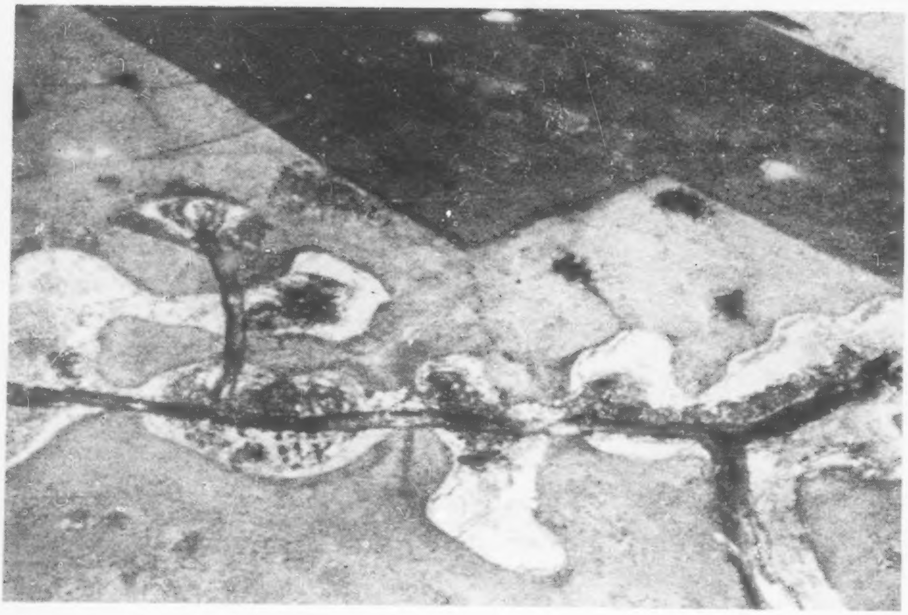


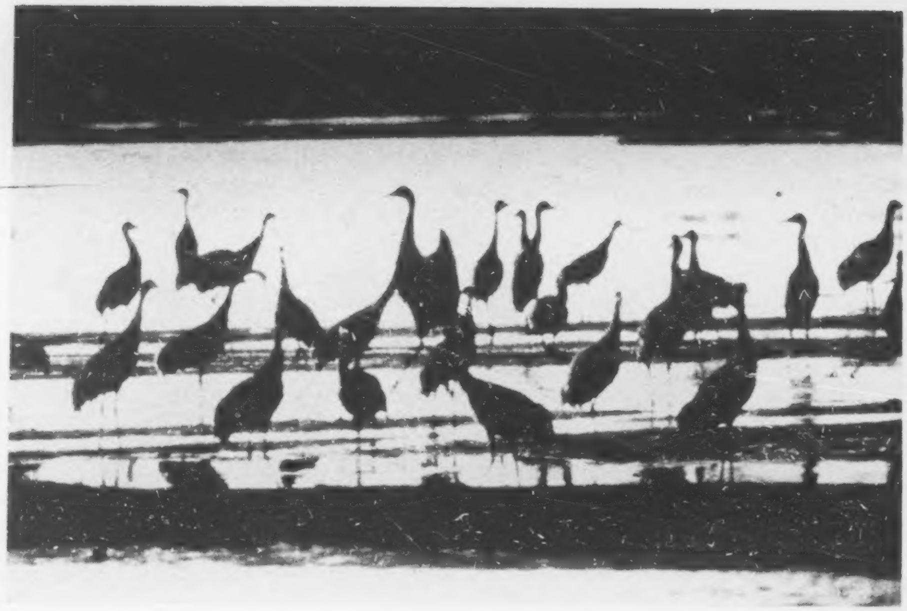
Fig.42. Prairie pothole wetlands continue to be drained for agriculture.

Wetlands of Nebraska's Sandhills and Rainwater Basin

Wetlands within the Sandhills and Rainwater Basin of south-central Nebraska are important to migrating sandhill cranes and waterfowl in the Central Flyway. About 2.5 million ducks and geese move through the Rainwater Basin each spring. Ninety percent of the mid-continent's white-fronted geese stage in wetlands of the Basin and central Platte each spring. Pheasants also depend on wetland vegetation for nesting and brood habitat (Farrar 1982). Eighty percent of the continent's population of sandhill cranes depend on wetlands along 70 miles of the Platte and North Platte Rivers as staging areas during spring migrations (Figure 43). Whooping cranes, an endangered species, also roost in broad reaches of the Platte River's channels (U.S. Fish and Wildlife Service 1981).

The Nebraska Sandhills Region is the largest sand dune formation in the western hemisphere covering approximately 20,000 square miles. Formed primarily by wind action, the Sandhills consist of stabilized sand dunes, exposed groundwater lakes in the valleys, and perched mineralized lakes on poorly drained soils. The grassland economy of the Sandhills is primarily one of cattle grazing. Large acreages of subirrigated meadows with water tables close to the surface offer great potential for increased grazing and hay production through development of level ditching. Wetland destruction in the Sandhills has accounted for over 28,000 acres or 15% of the original wetlands (Nebraska Game and Parks Commission 1972). Wetland loss has resulted from drainage, filling for pivot irrigation, and reduced groundwater levels from deep well irrigation.

Decreases in riverflows of the Platte River by upstream diversions for consumptive uses in Colorado, Wyoming and western Nebraska have reduced channel width by 80-90% in many areas. This condition has promoted growth of woody vegetation on former channel bars and islands. Sandhill cranes prefer roosting in shallows and sandbars where the channel is at least 500 feet wide and strongly avoid narrower channels. Reduction in natural channel width and increased growth of woody vegetation have caused crowding at remaining roost sites. This situation increases crane susceptibility to catastrophic losses due to



Wiseman

Fig. 43. Sandhill cranes on a Platte River roost at sunrise.

severe storms and disease. If the trend continues, sandhill cranes may shift to the Rainwater Basin where avian cholera is already a serious problem. Native grasslands along the rivers have also declined. These areas provide important food for the migrating cranes (U.S. Fish and Wildlife Service 1981).

The Rainwater Basin includes parts of 17 counties, roughly 4,200 square miles in extent. Wetlands formed in depressions underlain by clay on the rolling plain. Originally 4,000 marshes totaling 94,000 acres existed. Wetland destruction accelerated after World War II due to improved earth-moving equipment and deep well irrigation. Agriculture intensified in the Basin with the help of Federal funds and technical assistance for wetland drainage. By the late 1960's, 18% remained and in 1981, less than 10% survived. Nine out of every ten wetlands have been drained or filled. Of those remaining, only 43% are protected by state or Federal wildlife agencies.

Losses of Basin wetlands have forced ducks and geese to concentrate in the remaining wetlands. In 1980, about 80,000 waterfowl died due to avian cholera. This was the second largest cholera die-off reported in the country. During dry years with late winter storms, birds are forced to crowd in Basin wetlands, setting the stage for large die-offs. Waterfowl breeding populations have also been affected by wetland destruction. By 1975, the duck breeding population declined so much that the Nebraska Game and Parks Commission discontinued its aerial breeding bird survey

Efforts to protect remaining wetlands have recently been weakened. The Water Bank Program which provides payments to landowners preserving important waterfowl wetlands has been funded at lower levels. Wetland protection under the Clean Water Act of 1977 has been reduced through regulatory changes. New regulations which may strengthen protection will, however, be proposed this year. Legal disputes between the Fish and Wildlife Service and others over water rights have affected management of 15,507 acres of waterfowl production areas in the Rainwater Basin. Along the Platte and North Platte Rivers, action is needed to protect native grasslands near river channels and to maintain channel widths of 500 feet or more for suitable crane roost sites during migration. Acquisition and conservation easements are useful tools.

Forested Wetlands of the Lower Mississippi Alluvial Plain

The bottomland hardwood forests of the lower Mississippi floodplain are among the Nation's most important wetlands. They are prime overwintering grounds for many North American waterfowl, including 2.5 million of the 3 million mallards of the Mississippi Flyway, nearly all of the 4 million wood ducks and many other migratory birds. Numerous finfishes depend on the flooded hardwoods for spawning and nursery grounds. These wetlands also support many other wildlife, including deer, squirrel, raccoon, mink, beaver, fox and rabbit. They also play a vital role in reducing flooding problems by temporarily storing large quantities of water and by slowing the speed of flooding waters. In the process, these wetlands remove chemicals from the water such as fertilizers and pesticides and trap soil eroding from nearby farmlands.

Originally, the Mississippi Alluvial Plain included nearly 24 million acres of bottomland forested wetlands. By 1937, only 11.8 million acres or 50% of these remained. Today, there are less than 5.2 million acres left, roughly 20% of the original acreage (Figure 44; MacDonald, et al. 1979). Over half of this wetland is in Louisiana, with large amounts also in Arkansas and Mississippi. These forested wetlands have been cleared and drained for crop production (Figure 45). Federal flood control projects and small watershed projects have accelerated wetland conversion to cropland, especially from the 1950's to the present. An estimated 2% of the remaining bottomland forests are lost annually.

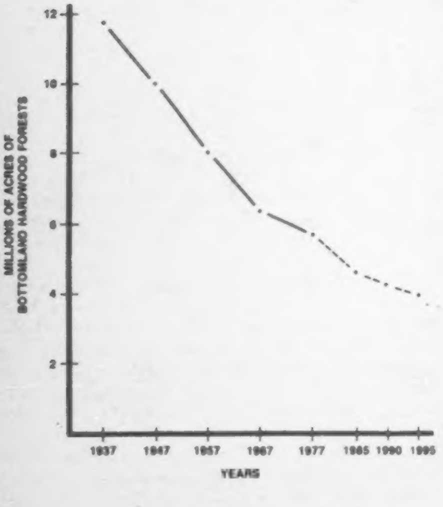


Fig. 44. Actual and projected losses in bottomland forested wetlands of the lower Mississippi Alluvial Plain (from MacDonald, et al. 1979).

Historically, cotton and corn were the primary crops raised on former bottomlands, but since the mid-1950's, soybeans have dominated. In 1977, cropland acreage in soybeans amounted to more than the combined acreage of the four other principal crops - cotton, wheat, rice and corn. Soybeans have major advantages over the other crops: (1) they have a very short growing season, so they can be planted in areas that are flooded till late June, and (2) they can be planted in a variety of soil conditions. Other crops, like cotton, require better drained soils than soybeans or rice. Heavy foreign demand for soybeans has made it the most lucrative cash crop. Traditionally, natural stands of bottomland hardwood forests were cut for timber. Recently, in an effort to maximize timber production, cottonwood and other silviculture plantations have been established to a limited extent. However, the economics of hardwood production cannot compete with farm crops, where they can be grown. The net economic return per acre is twice as high for farmland as for forest. Thus, conversion of bottomland hardwoods to cropland can be expected to continue in the Mississippi Alluvial Plain as well as elsewhere in the Southeast. These losses seriously threaten some wildlife populations and increase the frequency of damaging floods like the April 1983 floods that caused millions of dollars of damage in Louisiana and Arkansas.

The Federal Clean Water Act can be instrumental in regulating conversion of bottomland hardwood forests to agricultural uses. A 1979 U.S. District Court decision (Avoyelles Sportsmen's League v. Alexander) stated that a Section 404 permit is required for land clearing of wetlands for agriculture. Subsequently, the Corps of Engineers took a conservative position and regulated land clearing only in the Western District of Louisiana. On September 26, 1983, the Fifth Circuit Court of Appeals decision (Avoyelles Sportsmen's League v. Marsh) affirmed the district court's opinion by rejecting the contention that land clearing is a normal farming activity exempt from Section 404 permit requirements. This decision provides the legal framework for protecting remaining bottomland wetlands as well as other inland wetlands subject to agricultural conversion. In early 1984, an out-of-court settlement agreement on a U.S. District Court case (National Wildlife Federation v. Marsh), among other things ordered the Corps of Engineers to issue a regulatory guidance letter regarding the Avoyelles Sportsmen's League decisions. The future outcome of these decisions should lead to improved wetland protection under the Clean Water Act.

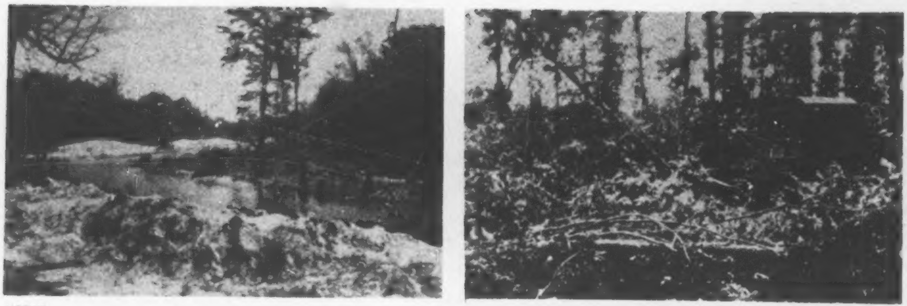


Fig. 45. Bottomland wetlands are being channelized, clearcut and converted to agricultural uses in many areas of the Southeast, (a) channelization and (b) clearcutting.

Besides improved regulation, acquisition of bottomland hardwood forests in the Lower Mississippi Alluvial Plain is needed to protect the remaining wetlands. Accelerated acquisition efforts by the Service, the State of Louisiana, the Nature Conservancy and others are important steps to preserving these forested wetlands.

North Carolina's Pocosins

Along the Southeastern Coastal Plain, numerous evergreen forested and scrub-shrub wetlands called "pocosins" are found (Figure 46). Pocosins lie in broad, flat upland areas away from large streams. Their vegetation consists of a mixture of evergreen trees including pond pine, loblolly bay, red bay and sweet bay with shrubs, including titi, zenobia, fetterbush, wax myrtle, and leatherleaf. Seventy percent of the Nation's pocosins are in North Carolina, where they alone comprised about 2.2 million acres or half of the state's freshwater wetlands in 1962 (Richardson, et al. 1981).

Fig. 46. Most of the Nation's pocosin wetlands occur along the coastal plain of North Carolina.

Although pocosins are not essential for any wildlife species throughout its range, they do provide important habitat for many animals, especially black bear along the coast (Monschein 1981). For example, the Dismal Swamp is reported to be the last refuge for bears in coastal Virginia. More importantly, pocosin wetlands in coastal North Carolina are closely linked with the riverine and estuarine systems (Richardson 1981; Street and McClees 1981). They help stabilize water quality and balance salinity in coastal waters. This is especially important for maintaining productive estuaries for commercial and recreational fisheries.

Historically, forestry and agriculture have had important influences on pocosins. During the past 50 years, forestry uses of pocosins have increased and today about 44% of North Carolina's pocosins are owned by major timber companies (Richardson, et al. 1981). While some pocosins were drained and converted to pine plantations or agriculture prior to the early 1960's, most of the commercial development is more recent (Figure 47). Since 1970, timber companies have transferred nearly 500,000 acres to large-scale agriculture. Agricultural drainage has focused on the Albemarle-Pamlico peninsula where large corporate farms own 400,000 acres of pocosins. In addition to land clearing and extensive ditching, farming in these former wetlands requires adding fertilizers and lime. For example, 4 to 8 tons of lime must be added to each acre of new agricultural land, with one additional ton added every three years to keep former pocosin soils fertile (McDonald, et al. 1983). Runoff from these farmlands degrades water quality of adjacent estuaries. Changes in nutrient loading and salinity patterns of adjacent estuaries have been observed (Barber, et al. 1978). These changes may adversely impact fish nursery grounds.

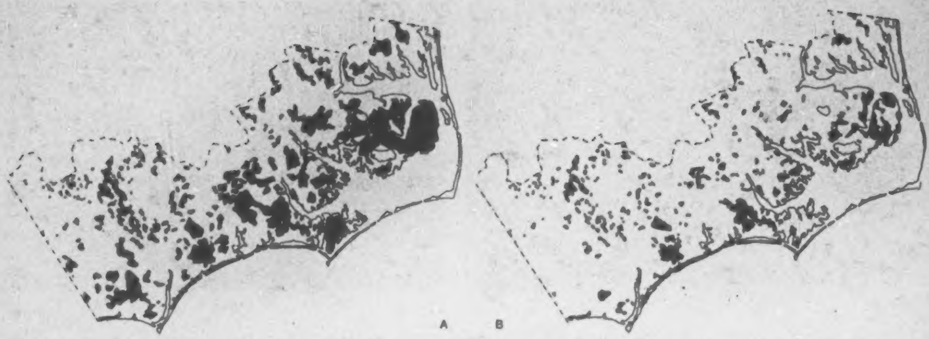


Fig. 47. Comparison of the extent of natural or only slightly modified pocosins in North Carolina, (a) early 1950's and (b) 1980 (from Richardson 1981).

Although forestry and agricultural uses of pocosins continue, peat mining represents a new threat to these wetlands. Peat deposits about four feet thick generally exist in coastal North Carolina. Interestingly enough, some of the large agricultural corporations which own many pocosins are already involved in peat mining operations. On December 22, 1982, the U.S. Synthetic Fuels Corporation endorsed Federal subsidies for a $576 million synfuel project in North Carolina. This project would remove peat from 15,000 acres of pocosins to produce methanol fuel and the land would subsequently be converted to farmland. This practice of peat mining and agriculture has been conducted for years in northern states like Minnesota.

About 2.5 million acres of pocosins once existed in North Carolina (Richardson, et al. 1981). Today, nearly 1 million acres survive in their natural condition. Thirty-three percent of the original pocosins was converted to agriculture or managed forests, while 36% was partially drained or cleared or planned for development. Federal wetland protection efforts through the Clean Water Act have been inconsistent to date. In September 1983, the Corps of Engineers was sued by various environmental groups (National Wildlife Federation v. Hanson) over the Corps' failure to take jurisdiction over a large pocosin. The outcome of this court case may establish guidelines for future protection. If the present trend continues, however, we can expect that many pocosins will be lost in the near future. Moreover, a predicted change in estuarine salinity patterns may adversely affect valuable fish and shellfish nursery grounds and North Carolina's multimillion dollar commercial fishery.

Western Riparian Wetlands

Lands within the 100 year floodplain and along the margins of ponds and lakes in the arid and semiarid regions of the country (e.g., Arizona, New Mexico, Utah, Nevada, Colorado, California, and eastern Oregon and Washington) are commonly called riparian ecosystems. They include both wetlands along streams and other waterbodies, and uplands on floodplain terraces. Existing information on the extent of this resource does not make a clear distinction between wetland and upland because the system as a whole is so important. However, loss of riparian habitats in general serves to reflect trends in associated wetlands.

Riparian ecosystems provide abundant food, cover and water for resident and migrating animals (Figure 48). These thin ribbons of vegetation along streams and lakes support a disproportionately large variety of wildlife. Woody vegetation is used for nesting by birds and for food and shelter by various mammals. Mule deer migrate along streams between high elevation summer ranges and low elevation winter ranges (Thomas, et al. 1979). Cottonwood and willow wetlands are the prime bird habitats in the West (Anderson, et al. 1977). Migrating birds follow the Rio Grande corridor in the spring and fall and riparian wetlands are very important to these birds (Wauer 1977). Along the Lower Verde River in Arizona, 166 bird species frequented riparian habitats, including the endangered bald eagle and endangered Yuma clapper rail (McNatt, et al. 1980).

Unfortunately, riparian ecosystems have been mistreated by man to the point where we can safely say that they represent the most modified land type in the West. Many riparian forests have been converted to cropland and tame-grass prairie. Others have been badly overgrazed by livestock. Heavy grazing has destroyed understory vegetation and has prevented regeneration of riparian vegetation in many places. In Arizona, dam construction on rivers poses the greatest threat to remaining riparian lands (Todd 1978). Pumping of groundwater for irrigation, municipal and industrial uses has lowered the water table in many areas, drying up riparian wetlands

USFWS A B Leupold

Fig. 48. Riparian wetlands along rivers and lakes are important to many types of wildlife in the West, (a) riparian wetland and (b) mourning dove.

and/or changing plant species composition.

The magnitude of riparian forest losses is alarming. For example, cottonwood communities along the Colorado River in Arizona have been reduced by 44%, while in Colorado more than 90% of the river's riparian habitats were destroyed (Ohmart, et al. 1977). Only 2% of the original riparian forests along the Sacramento River in California remain (McGill 1975, 1979). In Oklahoma, Rush and Wildhorse Creeks in the Washita watershed experienced a 93% and 84% reduction in bottomland forests between 1871 and 1969 (Barclay 1980). Today, no natural wetlands exist within their floodplains.

Flood control projects, supported by Public Law 566, have reduced flood frequency and magnitude. This, in combination with channelization, has created drier conditions which may be the main factor for lower abundance of amphibians, reptiles, birds and mammals on channelized sites (Barclay 1978). Besides direct losses of habitat, the quality of remaining riparian lands is changing due to water quality degradation, reduced streamflow, and the invasion of saltcedar, an exotic tree of lower wildlife value (Ohmart, et al. 1977).

Because these riparian zones are of such tremendous value to wildlife, it is incumbent upon public agencies to treat them with a preservationist attitude. When a water project does extensive damage to a riparian area, there should be every effort made to mitigate that damage, either by planting of riparian species in nonvegetated riparian areas or by acquisition and enhancement of existing riparian zones.

Urban Wetlands

Wetlands near urban centers are under increasing development pressure for residential housing, industry, and commercial facilities. Rising population and economic growth create high demand for real estate in suburban localities. Northern New Jersey is greatly affected by neighboring New York City and thus serves as a good example of the urban impacts on wetlands.

The proximity of northern New Jersey to New York City has hastened development of its natural resources for urban and industrial uses. As suitable upland becomes exhausted, pressure intensifies to develop wetlands for residential housing, manufacturing plants, business office complexes and similar uses. In many communities, inland wetlands represent the last large parcels of open space. They often are also the final haven for wildlife in an increasing urban environment. Animal diversity is generally greater in inland wetlands than in other inland areas.

With accelerating development of adjacent uplands, the role of inland wetlands in flood protection and water quality maintenance becomes critical. Urban and industrial development increases the amount of surface water runoff from the land after rainfalls. This raises flood heights and increases flow rates of the rivers, thereby increasing the risks of flood damages. In the Passaic River watershed, annual property losses to flooding approached $50 million in 1978 (U.S. Army Corps of Engineers 1979). Increased runoff brings with it various substances that degrade water quality, such as fertilizer chemicals, grease and oil, road salt, and sediment. Effluent from some sewage treatment plants built to handle the needs of growing communities also reduces water quality. By passing through wetlands, a type of cleansing action takes place as many pollutants are removed from the water and retained or utilized by the wetlands.

Inland wetlands in certain instances function as recharge areas. This is especially true in communities where groundwater withdrawals are heavy. Thus, inland wetlands may be essential to preserving public water supplies. This value is particularly important considering recent severe water shortages in northern New Jersey.

Inland wetlands of northern New Jersey are vulnerable to development for several reasons including: (1) in many cases, they represent the last large tracts of open land, (2) increased population growth in the New York metropolitan area has raised land values and demand for real estate, (3) relatively new interstate highways have improved access to many areas which has increased development opportunities, (4) most wetlands are zoned for light industry or residential housing by local governments, (5) the lack of any comprehensive state wetland protection for inland wetlands, and (6) many inland wetlands do not meet specific requirements for Federal jurisdiction under Section 404 of the Clean Water Act of 1977. Recent wetland losses have been particularly heavy in this part of the state. In the recent past, Morris County may have lost about 25% of its wetlands, while over half of Passaic County's wetlands may have been destroyed. Pressure to develop remaining wetlands continues to be intense as demonstrated by proposals to fill all or parts of inland wetlands, e.g., Lee Meadows, Bog and Vly Meadows, Long Meadows and Black Meadows.

A bill to strengthen protection for these and other inland wetlands has been recently introduced into the New Jersey legislature. If passed, local governments will have some of the necessary tools to provide wise stewardship of these valuable natural resources. The U.S. Army Corps of Engineers is considering wetland acquisition in the Passaic River Basin as an option to prevent flood damages from escalating in the future. This approach was successfully used by the Corps in the Charles River Basin in Massachusetts. Similar initiatives are needed in other states to reduce loss of inland wetlands to urbanization and industrial development. Moreover, Federal regulation under the Clean Water Act is also vital to protecting these wetlands.

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THE FUTURE OF AMERICA'S WETLANDS

While predicting the future of the Nation's wetlands is extremely difficult and complex, an examination of recent trends in population, agriculture, and wetland protection provides insight into what can be expected. Population growth and distribution and agricultural development greatly affect land-use patterns which impact wetlands. Government's wetland protection efforts are key to preserving wetland functions and values for today's public and for future generations.

The U.S. population is growing by 1.7 million each year. In 1976, nearly 53% of Americans lived within 50 miles of a major coast. Population density in the coastal zone was 6 times that of the rest of the country (Council of Environmental Quality 1981). Pressures to develop estuarine and palustrine wetlands in coastal areas will remain intense, despite the existence of laws to protect estuarine wetlands. As adjacent upland becomes developed, public managers will be greatly challenged to protect wetlands from future development.

A recent population shift from industrialized Northeastern and North-Central states to the sunbelt states of the Southeast and Southwest will increase urban and industrial development pressures on wetlands in these latter regions. This new growth will also heighten competition for water between agricultural and non-agricultural users, with fish and wildlife probably being the biggest losers.

Since 1970, non-metropolitan areas have grown faster than metropolitan areas. Suburban counties have grown most rapidly, threatening remaining wetlands with urban development. Since most states do not have wetland protection laws, Federal regulation through the Clean Water Act is the key means to protecting these wetlands.

Increases in the world's population are likely to continue to have significant impacts on America's wetlands through agriculture. In the 1970's, U.S. export of grains and soybeans accelerated to help meet the worldwide rise in demand for food. This increased demand for U.S. farm products reversed a 40 year trend of declining cropland use (National Research Council 1982). It also led to conversion of vast acreages of bottomland forested wetlands to cropland, especially in the Mississippi Alluvial Plain. Increased demand for U.S. food will add more pressure to drain wetlands. Without adequate regulations, many palustrine wetlands will be converted to cropland in the near future.

Other recent agricultural trends likely to increase wetland conversion include:

1. Increasing costs of production and declining net returns per unit of product force farmers to increase production.
2. Conversion of prime agricultural land to non-agricultural uses (e.g., urban) will lead to conversion of rangeland, pasture and wetlands to cropland.
3. Increasing irrigation will lower water tables and dry up wetlands, especially in the West.

Agriculture will also continue to play a major role in degrading water quality, fish and wildlife habitat, and the quality of wetlands, unless improved management techniques are employed. About 68% of water pollution in the U.S. is caused by agriculture, with soil erosion from cropland being the single greatest contributor to stream sediment (National Research Council 1982). Before considering conversion of wetlands and other lands to agricultural uses, improved soil management practices should be employed on existing farmland.

Wetland protection in the U.S. currently is accomplished by two primary techniques: 1) acquisition of priority wetlands and 2) regulation of wetland uses. Both Federal and state governments are involved to varying degrees in wetland acquisition and regulation. The use of tax incentives to encourage preservation of wetlands by landowners, although not widely used to date, represents a potentially valuable tool for protecting wetlands. The removal of government subsidies which encourage wetland destruction would also benefit wetlands greatly.

Acquisition of wetlands to preserve fish and wildlife values is ongoing at both Federal and state levels. The two key Federal programs are the Service's National Wildlife Refuge System and the Soil Conservation Service's Water Bank Program. The Service's acquisition efforts focus on wetlands important to migratory birds, especially waterfowl breeding and overwintering grounds. Wetlands are protected by direct purchase or by acquiring conservation easements which prevent wetlands from being drained, burned, leveled, or filled (Figure 49). The Migratory Bird Conservation Act of 1929, the Migratory Bird Hunting and Conservation Stamp Act of 1934, and the Land and Water Conservation Fund Act provide the authority and/or funds to purchase wetlands. The Alaska Native Claims Settlement Act set aside vast wetland acreages in Alaska as National Wildlife Refuges. The Service presently controls nearly 32 million acres of palustrine wetlands and about 2 million acres of estuarine wetlands. Most of this acreage (28 million palustrine acres and 1 million estuarine acres) is in Alaska. The Soil Conservation Service's Water Bank Program also emphasizes waterfowl habitat acquisition. Through this program, participating landowners receive annual payments over a 10-year period for preserving wetlands for waterfowl nesting and breeding. State fish and game agencies are also active in wetland acquisition as part of fish and wildlife management areas. Acquisition, although especially useful for preserving priority wetlands of a particular value, cannot be expected to provide protection for all of the Nation's important wetlands. Wetland regulations at the Federal and state levels are vital to preserving America's wetlands and saving the public values they provide.

WATERFOWL
PRODUCTION
AREA
OPEN
TO PUBLIC HUNTING

Fig. 49. Establishing waterfowl production areas is one way that the Service protects important waterfowl breeding habitat.

The foundation of Federal wetland regulations is Section 10 of the River and Harbor Act of 1899 and Section 404 of the Clean Water Act of 1977, while twenty-four states have passed laws to regulate wetland uses. Federal permits for many types of construction in wetlands are required from the U.S. Army Corps of Engineers, although normal agricultural and silvicultural activities are exempt from permit requirements. The Service plays an active role in the permit process by reviewing permit applications and making recommendations based on environmental considerations, under authority of the Fish and Wildlife Coordination Act. The 1982 changes in the Corps regulations reduced the Federal government's role in protecting wetlands and generated much controversy and debate both within and outside of the government. Numerous lawsuits were filed against the Corps by concerned environmental groups over these changes. Under a recent out-of-court settlement (National Wildlife Federation v. Marsh), the Corps will propose new regulations requiring closer Federal and state review of proposals to fill wetlands. This agreement should broaden Federal protection of wetlands. Meanwhile, nearly half of the 50 states have laws in place which regulate wetland uses to varying degrees (Figure 50). Most of these states protect estuarine wetlands, with palustrine wetlands being largely unprotected. For these latter wetlands, Federal regulation is the principal means of protection. Unless these regulations are strengthened, extensive wetland acreages will be destroyed before the end of this century. Agriculture will continue to convert wetlands to cropland in the Mississippi Alluvial Plain, Prairie Pothole Region, South Florida, Nebraska's Sandhills and Rainwater Basin, California's Central Valley and other areas. Urban development of wetlands will continue around urban centers throughout the country. Even if direct losses are controlled, the problem of degrading quality of wetlands must be addressed by government agencies to maintain the biological integrity of these valuable natural resources.

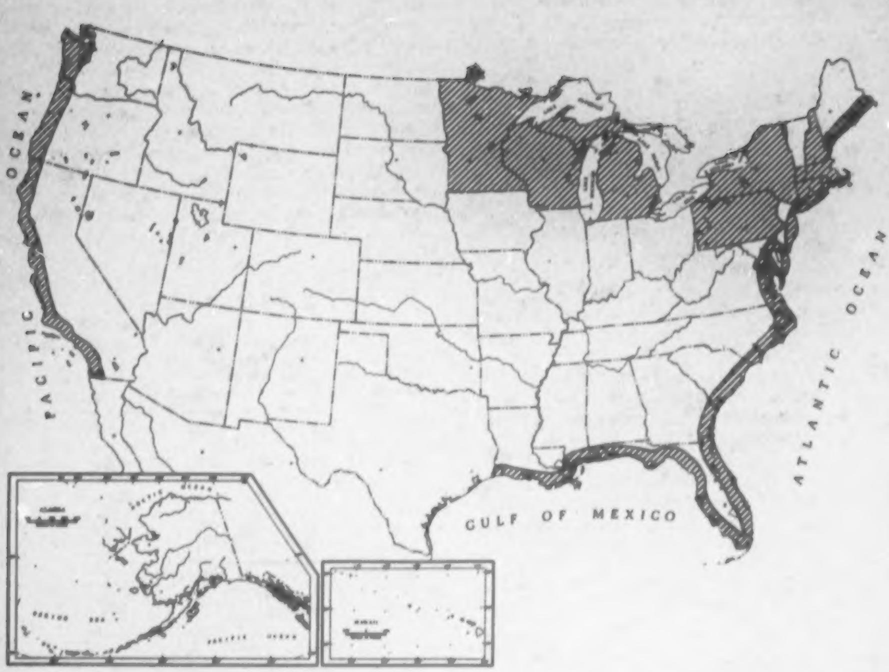

Fig.50. Current status of state wetland protection efforts. Shaded states have enacted laws to regulate wetland uses. States with only coastal wetland laws are shaded along their coastlines.

Management Recommendations

In an effort to halt or slow wetland losses and to enhance the quality of the remaining wetlands, many opportunities are available to both government agencies and the private sector. Their efforts will determine the future course of the Nation's wetlands. The Environmental Law Institute's publication "Our National Wetland Heritage" discusses in detail public and private means of protecting wetlands (Kusler 1983). Major options have been outlined below.

Government Options:

1. Develop a consistent national policy to protect wetlands of national significance.
2. Strengthen Federal, state and local wetlands protection.
3. Ensure proper implementation of existing laws and policies through adequate staffing, surveillance and enforcement.
4. Remove government subsidies which encourage wetland drainage.
5. Provide tax and other incentives to private landowners and industry to encourage wetland preservation and remove existing tax benefits which encourage wetland destruction.
6. Increase wetland acquisition in selected areas.
7. Improve wetland management on Federal and state-owned lands, including rangelands and forests.
8. Scrutinize cost-benefit analyses and justifications for flood control projects that involve channelization of wetlands and watercourses.
9. Increase the number of marsh creation and restoration projects, especially to mitigate for unavoidable wetland losses by government-sponsored water resources projects.
10. Complete the National Wetlands Inventory, monitor wetland changes and periodically update these results in problem areas.
11. Increase public awareness of wetland values and the status of wetlands through various media.

12. Conduct research to increase our knowledge of wetland values and to identify ways of using wetlands that are least disruptive to their ecology.

Private Options:

1. Rather than drain or fill wetlands, seek compatible uses of those areas, e.g., timber harvest, waterfowl production, fur harvest, hay and forage, wild rice, hunting leases, etc.
2. Donate wetlands or funds to purchase wetlands to private and public conservation agencies for tax purposes.
3. Maintain wetlands as open space.
4. Work in concert with government agencies to educate the public on wetland values, etc.; private industry's expertise in marketing/advertising is particularly valuable.
5. Construct ponds in upland areas and manage for wetland and aquatic species.
6. Purchase Federal and state duck stamps to support wetland acquisition.

Many of our current wetland problems have national and multi-state implications. For example, wetland drainage in one state may increase flood damages in another state. Cooperation between Federal, state and local governments is imperative to solving these problems. Opportunities also exist for the private sector to join with government in protecting wetlands. Large and small landowners can also contribute to this effort by managing their lands in ways that minimize wetland alterations.

With over half of the wetlands in the conterminous U.S. already lost, it is imperative that appropriate steps be taken to protect our remaining wetlands. Wetland protection demands both public and private sector cooperation and action to ensure that Americans will continue to receive the many public benefits that wetlands provide.

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APPENDIX A
Glossary of Common and Scientific Names of Wetland Plants

Common Name	Scientific Name	Common Name	Scientific Name
Alkaligrass	*Puccinellia spp.*	Loblolly Pine	*Pinus taeda*
Alders	*Alnus spp.*	Lodgepole Pine	*Pinus contorta*
Arrowheads	*Sagittaria spp.*	Lyngbye's Sedge	*Carex lyngbyei*
Ashes	*Fraxinus spp.*	Maidencane	*Panicum hemitomum*
Asters	*Aster spp.*	Marsh Mallow	*Hibiscus moscheutos*
Atlantic White Cedar	*Chamaecyparis thyoides*	Muskgrass	*Chara spp.*
Bald Cypress	*Taxodium distichum*	Naiads	*Najas spp.*
Balsam Fir	*Abies balsamea*	Narrow-leaved Cattail	*Typha angustifolia*
Balsam Poplar	*Populus balsamifera*	Northern White Cedar	*Thuja occidentalis*
Baltic Rush	*Juncus balticus*	Overcup Oak	*Quercus lyrata*
Beech	*Fagus grandifolia*	Peat Mosses	*Sphagnum spp.*
Beggar's-ticks	*Bidens spp.*	Pickerelweed	*Pontederia cordata*
Big Cordgrass	*Spartina cynosuroides*	Pignut Hickory	*Carya glabra*
Black Grass	*Juncus gerardi*	Pin Oak	*Quercus palustris*
Black Gum	*Nyssa sylvatica*	Pond Pine	*Pinus serotina*
Black Mangrove	*Avicennia germinans*	Pondweeds	*Potamogeton spp.*
Black Needlerush	*Juncus roemerianus*	Prairie Cordgrass	*Spartina pectinata*
Black Spruce	*Picea mariana*	Red Alder	*Alnus oregona*
Black Walnut	*Juglans nigra*	Red Bay	*Persea borbonia*
Black Willow	*Salix nigra*	Redhead Grass	*Potamogeton perfoliatus*
Bluegrass	*Poa palustris*	Red Mangrove	*Rhizophora mangle*
Bog Laurel	*Kalmia polifolia*	Red Maple	*Acer rubrum*
Bog Rosemary	*Andromeda glaucophylla*	Reed	*Phragmites australis*
Box Elder	*Acer negundo*	Reed Canary Grass	*Phalaris arundinacea*
Bulrushes	*Scirpus spp.*	Rice Cutgrass	*Leersia oryzoides*
Burreeds	*Sparganium spp.*	Saltgrass	*Distichlis stricta*
Buttonbush	*Cephalanthus occidentalis*	Saltwort	*Batis maritima*
California Cordgrass	*Spartina foliosa*	Salt Hay Cordgrass	*Spartina patens*
Cotton Grasses	*Eriophorum spp.*	Salt Marsh Aster	*Aster tenuifolius*
Cottonwood	*Populus fremontii*	Sea Myrtle	*Baccharis halimifolia*
Cranberry	*Vaccinium macrocarpon and V. oxycoccos*	Sea Ox-eye	*Borrichia frutescens*
		Sedges	*Carex spp.*
Dogwoods	*Cornus spp.*	Silver Maple	*Acer saccharinum*
Eelgrass	*Zostera marina*	Slash Pine	*Pinus elliottii*
Elm	*Ulmus spp.*	Slender Bulrush	*Scirpus heterochaetus*
Eurasian Milfoil	*Myriophyllum spicatum*	Smartweeds	*Polygonum spp.*
False Aster	*Boltonia latisquama*	Smooth Cordgrass	*Spartina alterniflora*
Fetterbush	*Lyonia lucida*	Spikegrass	*Distichlis spicata*
Giant Cutgrass	*Zizaniopsis miliacea*	Spikerushes	*Eleocharis spp.*
Glassworts	*Salicornia spp.*	Sweet Bay	*Magnolia virginiana*
Green Ash	*Fraxinus pennsylvanica*	Sweet Gale	*Myrica gale*
Hairgrass	*Deschampsia caespitosa*	Sweet Gum	*Liquidambar styraciflua*
Hardstem Bulrush	*Scirpus paludosus*	Switchgrass	*Panicum virgatum*
High-tide Bush	*Iva frutescens*	Sycamore	*Platanus occidentalis*
Inkberry	*Ilex glabra*	Titi	*Cyrilla racemiflora*
Jaumea	*Jaumea carnosa*	Tulip Poplar	*Liriodendron tulipifera*
Labrador Tea	*Ledum groenlandicum*	Water Hickory	*Carya aquatica*
Larch	*Larix laricina*	Water Oak	*Quercus nigra*
Laurel Oak	*Quercus laurifolia*	Water Tupelo	*Nyssa aquatica*
Leatherleaf	*Chamaedaphne calyculata*	Waterweed	*Elodea canadensis*
Loblolly Bay	*Gordonia lasianthus*	Wax Myrtle	*Myrica cerifera*

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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THIRD CLASS BOOK RATE

Mr. **Grant**. There has been a little bit of controversy between you and USDA over conservation easements on lands that were subject to foreclosure, Farmers Home Administration. Would you give us some background, and maybe enlighten us a little on that?

Mr. **Morgenweck**. As I said, the Fish and Wildlife Service has been operating under an agreement with the Farmers Home Administration for the last several years. We have reached an agreement with the Farmers Home Administration on about 70,000 acres of easements on some 700 properties.

There has been—and I am not certain of the basis—but I believe it was the Solicitor's opinion from Agriculture that said that the Agriculture Credit Act of 1987 was somewhat in conflict with the Executive Order on wetlands protection. As a result, there should not be mandatory easements placed on defaulted property, unless there is an agreement with the landowner who is leasing it back or buying it back.

As a result, there has been a whole series of discussions between the Interior Department and Agriculture Department trying to work out an agreement between the two departments that would allow some wetlands restoration, some easements to be placed, and at the same time protect not only the economic viability of the farm, but to protect the rights of these individual landowners who are leasing back or buying back the property that is in default.

We do not have a final period behind the sentence, yet, unfortunately.

Mr. **Grant**. No more questions, thank you very much.

[Mr. Morgenweck's prepared statement appears on page 1480.]

Mr. **Hayes**. Next, Mr. Robert Pierce.

TESTIMONY OF ROBERT J. PIERCE, WETLAND TRAINING INSTITUTE, INC., POOLESVILLE, MD

Mr. **Pierce**. Thank you, Mr. Chairman, and members of the Subcommittee for the opportunity to speak today.

If I might, before I begin my testimony, I would like to provide one comment on your question to Mr. Morgenweck concerning time constraints. Section 404(q) of the Clean Water Act already states that to the maximum extent practicable, a decision with respect to an application for a permit under Subsection (a) of this section will be made not later than the 90th day after the date the notice of such application is published under subsection (a) of this section.

Mr. **Hayes**. Would the gentleman yield a moment? That's terrific. I used to work for a corporate law firm. All that says is that unless you have a reason otherwise, you do it within 90 days. Louisiana has one that is on its fourth year now. That section didn't help them a bit.

Mr. **Pierce**. I agree fully with that.

Mr. **Hayes**. The point I am making is that we are going to have to put some kind of parameters around the discretion. Of course there will be occasions when the discretion needs to be applied well beyond what is a very short-term limit. But on the other hand, I have a feeling that the millennia is a little bit of an outside parameter that is not too useful either.

So it was not a criticism of any agency or mechanism, I was just saying that I think one of our jobs has to be to make those distinctions as to when 90 days should be fair, or when two years might well be a reasonable time based upon Corps studies or something else that is simply not done.

But don't let me interrupt your testimony, please go ahead.

Mr. **Pierce**. My point in bringing that up, was simply to point out that I don't think you can establish a time frame that will help the program. I think it was tried and it didn't work.

As a little background, I am not representing any formal group, although I believe that my views are shared by many of the professional ecologists in this country. Before joining the Wetland Training Institute in 1989, I worked for the Army Corps of Engineers for 14 years, the last seven of which were at Corps headquarters in the regulatory program.

While with the Corps, I was a member of the committee that wrote the 404(b)(1) guidelines. I chaired the Corps committee which wrote the guidelines testing protocol, I was the principal technical monitor for the Corps' wetland research program, and two research programs dealing with contaminated dredge material.

I was a proponent for two wetland training courses routinely taught in two other course in regulatory policy, and I was one of the three culprits from the Corps of Engineers that helped write the Wetland Delineation manual that we are operating under now.

Let me state that I like wetlands. In fact, I earn my living from them right now. Many of them are valuable natural resources, serving important ecological functions with high societal values and should be conserved. In fact, it is generally recognized that wetlands can serve a dozen or more different functions. You have already heard testimony from a number of individuals, and in my written testimony which I ask be incorporated in total, I have listed 11 that are itemized in the wetland evaluation technique.

Mr. **Hayes**. Not to interrupt, but of course, any of the witnesses—it goes without saying because I didn't say it—but any materials of course will be added to the record, and any supplements in which any witnesses are interested parties care to add, we will leave the record open for those submissions.

Mr. **Pierce**. Two facts are noteworthy about the functions that these wetlands serve, and I won't go over those functions again. First is that few if any of the individual wetlands serve all of these functions. Second, many non-wetlands have been demonstrated to serve the same functions. In fact, with the exception of aquatic diversity and abundance, and for some species, wildlife diversity and abundance, non-wetlands, in many cases perform these functions as well or better than wetlands.

In short, the range of overall value of wetlands is just as great as the range in value of uplands.

Generally, we can place wetlands into one of two categories. We have already talked about categories today. The first are those which function in ways different than uplands, or which perform certain functions better than uplands, and the second is those areas which technically qualify as wetlands, but whose functions and the value to society of those functions are the same or similar to non-wetlands systems.

Typically, wetlands that are contiguous with or directly connected to open waters and those isolated wetlands that predictably have standing water in them for a substantial part of the growing season fall into the first category. These are wetlands that the layman recognizes, and the ones that are most commonly depicted on television.

They are the mangrove swamps and the Spartina marshes on the coasts that are vital to maintaining healthy fisheries. They are the bottomland hardwood swamps and prairie potholes that are valuable wildlife resources.

They are not the wet depressions in cornfields or the winter-wet woods which because they have tight soils and/or a high groundwater table early in the spring technically qualify as wetlands. These fall into the second category. It is these areas that are being most heavily subjected to pressures for development of one sort or another.

For example, a beech forest on the Delmarva Peninsula may be underlain by a mosaic of hydric and nonhydric soils. Groundwater typically is near the surface during the winter and first few weeks of spring. Once the trees leaf out and begin pumping water, the water table may drop to five or more feet below the surface, and remain there the rest of the growing season.

The portion of that forest growing in hydric soils qualifies as wetlands. The remainder of it does not. Our beech forest may be a very high value for some functions, but the value is not derived from its wetness, rather from the fact that it is a forest. Perhaps forested land on the Peninsula should be conserved, but I don't believe it should be done through the back door as a wetland. This superficial rationale for restricting private property rights through 404 regulation breeds contempt.

While many wetlands are important elements of our environment, so are non-wetlands. Forested hills and valleys, verdant meadows, mountains and deserts must also be wisely managed. We must conserve our prime agricultural lands.

I even believe, that as NEPA states, man should achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities.

The next statement I will make, I will probably be the only one to make. As an ecologist, I do not believe that no overall net loss of wetlands is an admirable goal that we as a country should try to achieve. Balance is necessary to maintain an ecologically sound environment. The concept of no overall net loss of wetlands sets aside the concept of balance and places one element of the natural system, that is wetlands, above all others. This is land management at its worst, it is mismanagement.

The 404 program, as now implemented, has become the number one land management program at any level of government in the United States What does no overall net loss of wetlands mean to the natural environment? It stands for a clear directive to avoid all wetlands at all costs, regardless of the wetland value or the value of the alternative site to be impacted. If often represents the indiscriminate destruction of forests and farmlands, since there is Federal, and seldom any state, oversight over areas that are not waters of the United States.

Given the choice between subjecting oneself to the delay and abuse typical of the current 404 process, or destroying a valuable upland forest, the logical person selects the latter.

Further, because of the high percentage of hydric soils in many parts of the country, no net loss of wetlands can be achieved only if society is willing to severely limit further development in those areas. More often than not, the people making the limiting decisions are far removed from the economic impact that they have on the local economy.

Understand also that the way the new delineation manual is being interpreted, any area that has hydric soils is likely to be considered a 404 wetland until hard data proves it otherwise. Even much of the prime agricultural land that was drained 100 years ago retains the one week of saturation in February or March necessary to qualify it as a wetland.

Therefore, Mr. Morganweck's statement indicating that we have lost approximately half of the wetlands, while they have been changed, I think if they assess it under the new delineation manual, we will find that many of those areas still remain technically wetlands.

The recent Memorandum of Understanding on mitigation has been discussed extensively also. As someone who was involved in writing the current 404(b)(1) guidelines, I take strong exception with Mr. Barrows' statement of February 27. Mr. Barrows was representing the Department of Army at the time. He stated that the Memorandum of Understanding does not contain requirements beyond those currently allowed by regulation, nor does it establish a new basis for denying Section 404 permits.

On the contrary, there are many aspects of the new Memorandum of Understanding which either have no basis in regulation or are diametrically opposite to written directives on implementation of the program. Mr. Barrows stressed in his testimony that flexibility remains in the program. Again, I must take issue.

Even before the new Memorandum of Understanding, flexibility in many parts of the country had been severely curtailed. The Memorandum of Understanding can only serve to further constrain the latitude that once existed in the program.

As you embark on a new decade of legislative initiatives, I truly hope that this Congress will learn from the mistakes of the past. Man's ability to modify the environment on large scale will no longer allow a piecemeal approach to management that has sufficed in the past.

The 1970s can be summed up as the "not in my backyard" decade. The Clean Water Act said "don't dump in the water." The Marine Protection Research and Sanctuaries Act said "don't dump in the ocean." The Clear Air Act said "don't burn your waste," and the Research Conservation Recovery Act said "don't dump on the land."

While major environmental improvements have resulted from the implementation of these acts, there have also been many problems and needless expenditures of large sums of money associated with the conflicts which have resulted.

As far back as 1981, in a special report to the President and Congress entitled "The Role of the Ocean in a Waste Management

Strategy" the National Advisory Committee on Oceans and Atmosphere reached profound conclusions which are applicable not only to the management of waste, but can serve as guidance in your current deliberation.

Among many recommendations was the following:

> NACOA recommends that Congress and the Executive Branch adopt an integrated approach to waste management. This requires that the Environmental Protection Agency modify its existing medium-by-medium approach to waste disposal. Wastes should be disposed of in a manner and medium that minimizes the risk to human health and the environment, and at a price that this Nation is prepared to pay.

Such guidance is equally valuable for the consideration of the allocation of natural resources for man's activities.

You are now in the enviable position to preempt the need for any future review group to make a recommendation similar to NACOA's third recommendation. That was that NACOA recommended that Congress hold hearings with a view toward eliminating conflicts resulting from the implementation of the present waste management legislation, as part of the process of developing and implementing a national waste management strategy.

Even as you deliberate on legislation endorsing "no overall net loss of wetlands," it is my understanding that another committee is considering legislation for no net loss of forested lands. Why not no net loss of agricultural land?

I urge you to exercise the authority vested in you by the public to legislate wisely. Do not begin another cycle of conflicting and parochial laws. Let me conclude with my thoughts on what should be the direction of your efforts.

I believe that this country needs a natural resources conservation program which is based on the same sound ecological principles that were the foundation of the National Environmental Policy Act. Such a program must combine education, financial incentives, and regulation in a coherent program which not only can be recognized by the public as being logical and reasonable, but which through broad public support can form the basis for a new national ethic.

The current programs are divisive and each day further polarize those segments of the population which must work together if we are ever to achieve an ecologically balanced environment. There is a growing resentment of over-regulation of private property simply because the land is cursed with hydric soils, not because it functions differently or better than surrounding non-wetlands. Many citizens see this as an abuse of the powers of the Government to protect the public health and welfare.

Implementation of this new program must be by one Federal agency with cooperation and consultation but not oversight, by other agencies. Specify each agency's role in the legislation. Don't leave it to chance, and if you make no other change to the legislation, I would echo Mr. Hunt's statements earlier today, that by putting 404 under one agency, you would be benefitting the public greatly.

I believe that all elements of the public except the radical fringe would embrace an approach which balances the needs of society with the conservation of important natural resources. No single aspect of the natural ecosystem should categorically be given more emphasis than another. Rather, each land use decision should be balanced to provide optimum benefit to man and the natural environment within local, regional and national context.

We should not be regulating wet cornfields of marginal agricultural productivity, which have not served wetland functions for decades to the detriment of prime agricultural lands. We should not be destroying virgin forests to protect common cattail marshes. We should not lose valuable riparian habitats in the arid southwest because they do not technically qualify as wetlands.

We should not allow the coast of Louisiana to roll away because corrective measures may require discharges of fill. We should not lose valuable green belts because part or all of them are not wetlands, or because preservation does not serve the goal of no net loss.

Nor should we automatically require the construction of wetlands as mitigation in landscapes dominated by wetlands, when upland habitat may actually enhance the overall ecology of the system.

During the last century, man has caused widespread destruction of natural systems. Virtually no part of our biosphere has remained free of man's impacts. Yet at the same time, our knowledge of the ecology of our globe has advanced dramatically.

That knowledge can be used to reverse many of man's mistakes, and in many cases improve upon the natural system. Ecologically sound decisions cannot be made, however, when society is strapped with rules which limit the creative application of man's intelligence to the solution of complex problems.

Simplified concepts of no overall net loss, in-kind on-site mitigation and sequencing not only stifle the application of ecological principles and decision making, but form a narcotic substitute for sound thought processes. I do not believe we can count on simplified concepts to solve complex problems. No overall net loss of wetlands is a simplified concept which in the long term will lead to more problems than it will solve.

That concludes my testimony. I will be happy to answer any questions you might have.

Mr. **Hayes**. Thank you.

It seems to me that with your background, you are a good person, among others here, to ask the concluding question I have asked a couple of other witnesses. In supporting Mr. Hunt's comment about a single agency, given your druthers, what agency would that be and what mechanism, so as to invite the concerns of different parties would be streamlined or effective to accomplish that?

Mr. **Pierce**. There are several perspectives that could be looked at from. From the standpoint of overall background, the Corps of Engineers has been running the program the longest, and probably has the largest staff and expertise already on staff to do it.

On the other hand, if the EPA was the selected agency, I doubt that the program would really change much. If you look at how the actual EPA regulatory programs are operated within EPA, 402 and the other ones, they don't differ much in their philosophy from the way the Corps operates its regulatory program. So either one of those, I think, would be a legitimate agency.

Possibly, though, with the emphasis that is now placed on hydric soils, we should perhaps think about the Soil Conservation Service being the agency of selection.

Mr. **Hayes**. I want to ask you also, it came up earlier in Mr. Pallone's opening statement. He was raising a question about enforcement, and saying he has been told by the Army Corps that they don't have the staff to monitor violations, he was referring to 404. How does enforcement work as a practical matter? In other words, an unpermitted action that should have been a 404 permit—how is it discovered and if discovered, what happens?

Mr. **Pierce**. Recognizing that I don't work for the agency——

Mr. **Hayes**. I realize that. But realizing that you were involved in the drafting of the provisions, I would be interested in knowing what the intent or theory was as to enforcement of violation.

Mr. **Pierce**. Enforcement has always been a major problem in the 404 program, simply because the size of the Corps staff has been so small and its research budget limited. The broad extent of waters of the United States is just incomprehensible from the standpoint of one Federal agency enforcing everything.

Most enforcement occurs either through aerial surveillance, a lot of it occurs because private citizens call in and report the neighbor that they don't like what they are doing. There is also more and more cooperation between State and other Federal agencies besides the Corps and EPA. People out driving around see something and call it in. Those are the ways that most of the enforcement problems come to light.

Mr. **Hayes**. What teeth are there? Assuming the enforcement problem leads to a clear cut violation of what should have been a 404 permit with the construction of a dwelling, what teeth are in the Act to take action in that case?

Mr. **Pierce**. A recent program on the Good Morning America show showed examples of people that have been incarcerated, some individuals spending a couple of years in jail, others being fined large sums. The teeth are there, if they are applied.

Unfortunately, they seem to be applied more on the basis of trying to set an example of someone in an area, rather than really going after a resource loss that is really crucial.

Mr. **Hayes**. We had testimony a few weeks ago in which it was stated by one of the witnesses that only about 20 percent of the witnesses falls under 404 permitting. Is that using the same definition that is the broadest interpretation of the definition that is now being employed in the manual? In other words, might we not have many people exposed because of grey areas of definition where it is not so easy to determine whether a violation did or did not occur?

Mr. **Pierce**. From a 404 standpoint, I don't think there is a definition problem. I do believe there is a definition problem nationally, that there are three current definitions and just within the last three months, the Housing and Urban Development Department proposed another definition in the Federal Register, which makes no sense whatsoever.

The problem is not so much on the definition of what a wetland is, we now, with the new manual, can technically go out and pinpoint areas fairly accurately that are wetlands. The problem is that now, because of the hydrology requirements within that manual, just one week within that growing season, and that occurs—in this part of the country it begins in the first of February—in much of the country it is in February or March. That's when the growing season starts.

If you have one week of saturation, you now fall into the category of wetland. The next step is then, does the activity that somebody intends to do or does, if it is an after-the-fact, does that require a 404 permit? Section 404 is written—I did not get into it in my testimony, but I do discuss that concept—404 is limited in what it allows the Corps of Engineers to regulate. That has been broadened over the years by administrative action, not by legislation.

Now, there is discussion of things such as pilings are 404 actions, discharge of fills, putting a piling in the ground. The conclusion I have formed over the legislation and what is written is that there is no clear directive. Otherwise, how could we have had a battle rage for 15 years on what is the meaning? Is 404 intended to protect wetlands or not?

If there was a clear directive in 404 that battle would not have arisen, and it would not have been fueled for 15 years. The question boils down to does the activity require a permit. It has gotten to the point now that it is so absurd, that in some districts of the Corps of Engineers, they are telling people that if you go out and use a dragline to dig out that wetland, it does not require a permit.

But if you use a bulldozer, or a front end loader, it does require a permit. It all gets back to how much material slops off the side of the bulldozer as opposed to how much can be captured in the bucket of the dragline.

That does nothing for the resource, it just establishes a program that is causing frustration at all levels.

Mr. **Hayes**. But you feel comfortable that the definition in 404 allows the determinability of whether a wetland is involved and whether permits are needed? Do you feel satisfied that it is clear enough for an owner to be able to make that determination, or get assistance in doing so in a timely fashion?

Mr. **Pierce**. My personal view is that the Federal Government should adopt the only definition that is in legislation, that is the one that came out first in the Swampbuster provision of the Food Securities Act of 1985. That's the only one in legislation. It was restated in the Emergency Wetland Resources Act of 1986. That's the one the Federal Government should be operating under.

That would not change 404 at all. It is basically the same definition.

As far as timely response on where a wetland is, no, I don't think the public gets that now. I think the public in more populated parts of the country are being told that is going to take six months to a year for them to get a delineation. So the Government tells them to go out and hire somebody like myself to tell them where the wetland is, then they will review the report and advise whether they agree with it or not.

The system has gotten complex enough—I taught approximately 1,000 individuals last year on wetland delineation, on the new Federal method. It takes a minimum of four days to teach the new Federal delineation.

Mr. **Hayes**. That's the Wetlands Training Institute that you refer to?

Mr. **Pierce**. Yes. It is not a simple process.

Mr. **Hayes**. Let me turn it over to Mr. Grant.

Mr. **Grant**. Thank you, Mr. Chairman.

In your judgment, should we have any permitting activities, and if so, what would they be?

Mr. **Pierce**. I think a permit program is always going to be required. But the way it has developed now, it has become a police action, more than anything else. It is a threat to people. People try to avoid it, and I try to recommend to my clients, when I am dealing with somebody in a delineation, I tell them if they can avoid the wetland, if you can stay away from the Federal Government, you will be far better off.

It might cost you more, but in the long term it will cost you less. That is what the program has become now The reason I believe it has become that is because it is not a logical program. People out there are doing development, whether it is building houses, building commercial properties, putting in your rice levees or some type of erosion control mechanisms. Whatever it is, they are seeing that are being made to jump through hoops for what often is a very low value resource.

Because they have these hydric soils, and technically it qualifies as a wetland, they are being made to do things the rest of the public is not made to do.

Mr. **Grant**. For what purpose would you permit?

Mr. **Pierce**. I believe there are lot of wetlands that need to be conserved, very definitely. I don't think we would get to the point of conserving those, those along the streams and waterways, those that have standing water in them, and serve important wildlife values. Without some type of regulatory program, those would be lost.

I think we saw that up until the mid-1970s. In my opinion, and I started with the Corps in 1975, the height of the 404 program was around 1978 to 1979. The Corps had learned a lot, they were being a lot more ecologically sensitive than their former status was among the public. Yet they were still out trying to help the public get through with their projects on their own property in a way that would reduce the impact on the environment and minimize that impact.

I believe since that time, the program has had a steady downturn, as there has been a narrowing perspective on the intent. That is to preserve wetlands, and that is where the intent of the program has gone.

Mr. **Grant**. What function would you permit?

Mr. **Pierce**. I would not limit it to one function. I would limit it to what resource and as I recommend in my testimony, I don't believe we can anymore simply regulate wetlands or waters in the United States I would rather see a program regulating important natural resources. They may be upland forest in an areas where you have the last remnant of forest. To lose that makes a lot less sense than destroying a cattail marsh or to destroy a wet field.

We need to go more to a program of natural resource regulation, and making sound decisions on the value of a resource. There may be a variety of values, not just fish and wildlife. In some cases it is flood and erosion protection. Aesthetics may be sufficient in an area for that resource to deserve being regulated.

What I am proposing is an actual land management program, not one that just manages one aspect of the land. That's the way it is now.

Mr. **Grant**. A better groundwater recharge area might be a light soil farm than a river swamp? A river swamp holds the water? Obviously I am not an ecologist.

Mr. **Pierce**. Most wetland ecologists and wetland hydrologists acknowledge that seldom do wetlands serve as groundwater recharge sites. At some times of the year they may be groundwater recharge sites, often they are groundwater discharge sites.

Mr. **Grant**. Conveyance or storage—

Mr. **Pierce**. Usually the upland areas are the groundwater recharge areas.

Mr. **Grant**. Who do you envision as the agency, aside from Mr. Hayes' question about 404 permitting, for such an omnibus agency? Did you envision creating a new one for all land management?

Mr. Pierce. There has been talk for a long time about the possibility of having a separate agency for regulating these types of matters. I don't know that an agency is needed—well, maybe an agency. But probably if we went to a land management ethic, the obvious choice would be under the Department of Interior. I don't know that there is any existing agency within the Department, but obviously Interior has the responsibility for the lands in this country.

Mr. **Grant**. And before an owner could use that land for farming, or build a parking lot, or whatever, they would have to get permission from the agency?

Mr. **Pierce**. It would depend on how it is structured. There is a lot of resource in this country that probably should be left to local management, not Federal management, insofar as common types of resources. Within those common types, there are a lot of seasonal wetlands that serve little value, other than their non-wetland counterparts. So there are areas of both wetland and non-wetland that probably best can be managed at a local or State level.

Mr. **Grant**. Thank you very much.

[Mr. Pierce's prepared statement appears on page 1502.]

[The following appendum was submitted for the record by Mr. Pierce:]

ADDENDUM TO TESTIMONY OF:

Robert J. Pierce, Ph.D.

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Poolesville, MD 20837-0099

BEFORE THE HOUSE
WATER RESOURCES SUBCOMMITTEE
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION

Mr. Chairman and members of the Subcommittee, during my testimony of March 13, 1990, I was asked two questions:

1. Did I envision the need for a regulatory presence under the new legislative program that I recommended be enacted; and

2. Who should implement such a program?

I have given these questions much thought since my testimony and request that this addendum be entered into the record.

I propose the enactment of a Natural Resource Conservation Act (Act). This Act would establish a new Department of Natural Resource Conservation (DNRC), uncluttered by existing responsibilities, policies and philosophies, whose mission would be the "wise use" of all of our Nations natural resources. It would be the responsibility of DNRC to coordinate and develop Special Area Management Plans (SAMPs) for each state in the union.

SAMPs are not a new concept. They first were utilized by the Department of Commerce under the Coastal Zone Management Act. They have subsequently been utilized by the Corps of Engineers for consideration of areas with valuable waters of the U.S. which are under heavy development pressure.

The basic development of SAMPs follows this scenario. The lead agency gathers together representatives from all other agencies at each level of government with responsibilities for resource conservation. This includes those agencies whose mission is to protect resources (e.g., fish and wildlife agencies) as well as those which represent users (e.g., farmers and real estate developers). "Wise use" dictates that all competing interests are represented. Acting under the guidance of this group, the lead agency evaluates the resources in an area and develops a management plan which identifies three basic category of lands:

1. Areas that should be preserved for future generations;

2. Areas which are suitable for some activities but not others and need to be regulated carefully; and

3. Areas which generally are suitable for consumptive use with only minimal regulation when best management practices are implemented.

Once drafted the SAMP goes through a series of reviews, first by the coordinating committee and later by the public at large.

Under the ACT, the DNRC would be the lead for organizing and completing a Master SAMP for each state as well as well as subordinate SAMPs for particular regions within the state which needs special consideration either because of unique resources or high development pressure.

An integral part of each SAMP would be the identification of responsibilities for each level of government. Category 3 areas could best be managed at the local zoning level and through a building permit process. Category 2 areas could best be managed at the state level. Category 1 areas could be managed at either the state or federal level. Let me add at this point that I believe that the private owner of any area placed in Category 1 should receive just compensation for the preservation of a natural resource of significance to the public at large. This compensation could take on many forms such as fee simple purchase, long-term easement or special tax exemptions.

A regulatory program needs exist for all categories of lands. Manipulation of even Category 1 areas may from time to time be necessary (e.g., for transportation corridor or utility line projects). The key to the success of the NRCA, however, is that regulation occur at the lowest level of government that is reasonable, that it be based on the relative value of the resource impacted, that it be fair and reasonable and that it not be duplicative.

Implementation of the Act will require a phase-in period. I suggest that current regulatory activities continue under existing legislation until the DNRC is formed and the Master SAMP for each state is finalized. As each state comes on line, existing federal (and hopefully state) legislation which overlaps with the regulatory roles established under the SAMP would be terminated. Those federal employees responsible for existing regulatory and land management programs subsumed by the SAMP would be transferred to the DNRC and reeducated.

This is a thumbnail sketch of a program that could result in the ecologically balanced management of all of the legitimately competing uses of our natural resources. Its implementation will not be easy, however, the achievement of worthwhile goals seldom is. I would be happy to work with you and your staff towards the realization of such a goal.

Thank you for the opportunity to add this to my testimony.

Mr. HAYES. I think we can create a panel. Why don't we ask Bryan Redd, and Mr. Steinberg, and Jeff DeBoer and Mr. Scardino if they might come down together? I will not in any way cut short any of your statements, I just want to facilitate movement a little better.

Which of you is Mr. Steinberg?

Mr. STEINBERG. I am Mr. Steinberg.

Mr. HAYES. With the International Council of Shopping Centers—does that mean you know Roger Ogden?

Mr. STEINBERG. Excuse me?

Mr. HAYES. He is on their board.

Mr. STEINBERG. I work with the task force.

Mr. HAYES. That's good, because you would have no credibility if you knew him.

There will be a break for lunch. I understand Mr. Nowak is going to return, at least his plane has now gotten him here. I thought we would finish this panel, then have a break. If Mr. Nowak has arrived at that time, he can announce when he would like to come back.

If not, we will just figure an hour from when we conclude with this panel.

Let me invite Mr. Redd to go ahead and begin with his statement.

TESTIMONY OF BRYAN REDD, McSWEENEY, BURTCH & CRUMP

Mr. REDD. Thank you, Mr. Chairman and members of the Committee.

My name is Bryan Redd. I am an environmental lawyer, currently practicing in Richmond, Virginia, with the firm of McSweeney, Burtch & Crump.

Formerly, I was a trial attorney with the United States Department of Justice here in Washington in the environmental enforcement section. I represented EPA exclusively in regulatory enforcement matters.

In recent years, Americans have come to desire more than merely unpolluted air, land and water resources. As the human population continues to expand, many see a need for Federal and State government action to preserve a variety of natural habitats to perpetuate a diverse system of plants and wildlife.

In particularly, a consensus has emerged that wetland areas should be preserved. I agree with this objective. However, it is impossible to achieve and undesirable to attempt to achieve under existing pollution abatement laws.

Believing that wetland areas should be preserved from any disturbance, EPA and the Corps recently have been attempting to accomplish such preservation, using their only regulatory tool—that is limitations on pollutant discharges under the Clean Water Act. But pollutant discharges are only one of many threats to wetland areas. Each year the majority of wetlands destroyed are lost due to activities that cannot be reasonably characterized as the discharge of pollutants.

Those activities include wetland drainage, devegetation through timbering, land clearing and other such operations. The results are apparent. First, the regulatory program suffers from disingenuous doubletalk. Regulators are tempted to characterize all disturbances of wetlands as discharges of pollutants, subject to the Clean Water Act, and to characterize the appropriate remedies as restrictions on such discharges.

In most of EPA's veto actions under Section 404 to date, EPA's complaint has not been that the area or adjacent waters will be polluted, but rather than the area will cease to be a habitat for wetland species. Nevertheless, the agency carefully speaks in terms of prohibiting discharges of pollutants, preserving the pretense of combatting water pollution.

Second, valuable wetlands continue to be lost at a great rate, due to activities that cannot be reasonably characterized as pollutant discharges. The pollution prevention model which is the only tool that EPA and the Corps have is simply proved to be an inadequate framework for deciding which wetlands should be protected, and how they should be protected.

If we persist in applying such a model, we will neither protect the wetlands that should be protected, nor allow reasonable development in areas where it should be permitted. To remedy this problem, I urge you to consider a two-part solution.

The first step is to adopt a scientific and specific, comprehensive wetlands conservation and protection program, separate and independent of the Clean Water Act. The second step would be to return the current Section 404 program to its original proper bounds, the protection of water quality from discharges that threaten it.

The Section 404 program works well in the water quality arena. It is not in need of revision.

Bills have recently passed Congress that take initial steps toward the first of these two objectives. For example, Congress has now authorized expenditure of from $11 million to $15 million during each of the next four years for acquiring, restoring and enhancing wetlands. It has also recently authorized expansion of the Everglades National Park.

Likewise, states all across the country are pitching in, appropriating money to buy and preserve valuable wetlands in connection with groups like the Nature Conservancy. In Virginia, our program is called the Natural Heritage Program.

But efforts to date are largely uncoordinated and lack comprehensive direction and planning. Congress could help by adopting a national program truly designed to preserve wetland habitat, not just an unpolluted environment. From my experience with the Section 404 program, I urge you to include the following six characteristics in such a national program.

First, allow full consideration of relevant resources management goals. The focus of a pollution abatement program simply is too narrow to accomplish comprehensive wetlands protection. Rather than treating habitat preservation as a matter of pollution control, an effective, intelligent conservation program must provide for identifying, balancing and resolving all of the competing resource management and land use goals that are implicated.

These include environmental and ecological issues, aesthetic concerns, economic considerations, and the full range of the public's interest in recreation, water supply, transportation, and other matters.

Second, and this point has been made by several prior speakers, and that is to treat wetlands according to their ecological value. The current pollution-oriented approach to wetlands protection in many circumstances encourages regulators to treat all classes of wetlands as if they were identical because they are all "waters of the United States." But some wetlands are much more important ecologically, and therefore are deserving of much more protection.

A comprehensive wetland protection program should acknowledge these differences between the wetlands. It should provide a variety of protective measures to preserve the ecologically-important features of diverse wetland types as effectively and inexpensively as possible, while avoiding unnecessary and unproductive regulatory measures.

Third, provide full consideration of mitigation. Although mitigation must be considered in comparing the environmental effects of alternatives under NEPA, EPA presently maintains mitigation cannot be considered in identifying the least environmentally harmful alternative under Section 404. This is illogical and in many instances can compel EPA to make environmentally unsound decisions.

For example, suppose EPA is deciding whether to permit Alternative A or Alternative B. Alternative A would have initial environmental effects of 100 units, but could be mitigated to have net effects of 50 units. Alternative B would have initial effects of 75 units, but cannot reasonably be mitigated. EPA's present policy would require selection of Alternative B, even though A with mitigation would be a better choice ecologically.

It remains to be seen whether the recent MOA will change that anomaly. Frankly, I don't believe it will.

Fourth, identify preservation areas in advance on a regional basis. As the current regulatory program demonstrates, failure to identify protect areas clearly and in advance leads to unnecessary conflict. Property owners presently are often unaware that Federal law restricts use of the land, since it is not obvious to laymen, or frequently even to experts, as pointed out by Dr. Pierce, that their land is a wetland.

Many landowners are acquainted with Federal regulation for the first time by means of a cease and desist order. This is often followed by a proposed consent decree providing for the loss of their improvements and the loss of the economic value of their property, plus frequently civil penalties. This is a shabby way for the Government to treat those that it has essentially failed to notify of their obligations.

The wetlands conservation program should be a mechanism for identifying areas to be protected and notifying the appropriate landowners about the applicable restrictions at the outset.

Fifth, provide some compensation to landowners. The wetlands conservation law would benefit all of us. Therefore, all of us should pay for it. A fair program for wetlands conservation will not place all of its costs on the relatively few who own and have paid for economically valuable property, only to find the bulk of its economic value taken from them.

If a landowner would suffer extraordinary loss by keeping his property in its natural state for the benefit of us all, we should see that he is compensated.

Sixth, end the EPA's "practicable alternatives" shell game. Currently, EPA and the Corps determine whether wetlands shall be preserved according to whether the owner has available alternatives sites for the proposed improvements. Ecologically, this makes no sense. Environmental areas that are truly critical should be preserved whether or not the owner has alternative means of accomplishing his or her goals.

The practicable alternative test also makes little sense as a regulatory matter. Under this standard, license applications necessarily are mired in a lengthy and potentially endless evaluation of other means to accomplish the owner's purpose. A thorough alternative analysis is already mandated in cases of significant environmental effects under the National Environmental Policy Act.

To date, EPA has taken the view that it is not obligated to identify the least environmentally harmful "practicable alternative" with respect to any permit application. Thus, if an applicant guesses wrong with his first application as to which alternative satisfies EPA's test, he can be required to submit application after application, with potential alternatives changing all the while as circumstances change.

In fact, my experience has been that EPA merely sits back and criticizes an applicant's alternative analysis without identifying what the agency itself believes to be the appropriate alternatives. This process is a bureaucratic shell game, and is highly susceptible to abuse by regulators wishing to hide the pea, or worse, play the game without one.

In conclusion, preserving wetlands is not a matter of restricting pollutant discharges. As a nation, we will do a better job of protecting wetlands if we require the agencies implementing our pollution abatement laws to reserve application of those laws to the task for which they were intended, then fashion truly effective legislation to preserve critical environments. That legislation can and should benefit from our past national experience.

Incorporating the points I have just discussed in such legislation will, in my opinion, help produce a more effective, broadly-supported habitat conservation for wetlands that does Section 404 of the Clean Water Act.

Mr. HAYES. Thank you. We will come back to you for questions after we hear Mr. Steinberg's statement. I do want to go back and inquire about a few things.

Mr. HAYES. Mr. Steinberg.

TESTIMONY OF ROBERT STEINBERG, PORTER, WRIGHT, MORRIS & ARTHUR, ACCOMPANIED BY JEFF DeBOER, CHIEF LEGISLATIVE COUNSEL, NATIONAL ASSOCIATION OF INDUSTRIAL AND OFFICE PARKS, AND BRIAN DEADER, INTERNATIONAL COUNCIL OF SHOPPING CENTERS

Mr. STEINBERG. Thank you, Mr. Chairman. My name is Robert E. Steinberg, and I am an attorney with the Washington office of Porter, Wright, Morris and Arthur. Accompanying me today is Jeff

DeBoer, Chief Legislative Counsel of the National Association of Industrial and Office Parks. Also here today is Brian Deader, representing the International Council of Shopping Centers.

I am appearing before you today on behalf of both of these trade associations that represent thousands of developers, owners, and managers of real estate. These trade associations have worked jointly to identify problems in the wetlands permit process faced by their members and to develop proposals for reform.

Attached to these remarks are the Wetlands Policy Recommendation provided to the Committee for the record on behalf of the two trade associations, which provide very specific recommendations for changes to the regulatory framework and suggestions of potential legislation.

The wetlands permit process has been a source of great frustration for our member companies. The permit process, as we have heard from many of the people testifying today, requires an applicant to maneuver through a maze of complex regulatory requirements, which are often ambiguous and inconsistently applied, and frequently result in long-term delays. The permit process is governed by numerous Federal and State laws implemented by a myriad of Federal and State agencies.

Moreover, because the United States Environmental Protection Agency may override Corps determinations in some instances, our members can never be sure that, after years of environmental studies and analysis, and economic studies and analysis, and heavy financial commitments, EPA will not intervene at the eleventh hour requiring drastic changes to a proposal or even threaten to veto that proposal.

Perhaps most troubling is the fact that under the wetlands permit as now offered by the recent MOA between the Corps and EPA, the Corps will be required to deny permits for projects for critically needed facilities and important benefits to local communities, and also provide substantial net environmental benefits, as a developer will enhance existing wetlands, or create new wetlands as a condition of the permit to offset losses to wetlands that are disturbed or of extremely low value.

Under the MOA, all wetlands, regardless of their value, are essentially treated the same. A simplistic approach to wetlands permits which rigidly mandates avoidance of wetlands even when those wetlands are of low or limited value and the project is urgently needed in the local community, is bad public policy. Such a policy can result in numerous adverse socioeconomic impacts, not only by preventing construction of an economically vital project, but also by increasing urban density transportation problems.

Requiring avoidance of wetlands, even when contrary to the overall public interest, also will inhibit achievement of no net loss, because it eliminates a key mechanism by which we help to increase our inventory of wetlands, by requiring developers to restore, enhance and create wetlands in exchange for allowing some conversion of wetlands.

Given current budgetary constraints, we cannot rely primarily on governmental funds to buy or restore wetlands. The private sector must do its share, and it is prepared to do its share. The wetlands permit process should contain incentives for developers to enhance our Nation's wetlands, and help expand wetlands resources. The MOA removes the incentives contained in the permit process, to promote private sector participation in achieving the no net loss goal.

I am pleased to provide to this Committee the Wetlands Policy Recommendations developed jointly by the Wetlands Task Forces of the NAIOP, and the ICSC. We would urge this Committee to consider these proposals and adopt our suggestions, which are designed to help attain the national goal of no net loss of wetlands, and insure approval of projects which provide both environmental, socioeconomic benefits, and remove or reduce delays, uncertainties or inequities in wetlands permit process.

Our proposals contain both procedural and substantive recommendations. Again, I emphasize that they are all summarized and explained fully in our wetlands policy recommendations.

We must emphasize that our organization strongly supports efforts to curb losses of wetlands resources to attain the no net loss goal. However, in developing a national strategy to protect wetlands, we must strike an appropriate balance out of necessity for wetland protection and socioeconomic needs of local communities.

I will be happy to respond to any questions.

Mr. HAYES. Thank you very much.

Mr. DeBoer, do you have a statement also?

Mr. DEBOER. No, sir.

Mr. HAYES. All right, then, Mr. Scardino.

TESTIMONY OF ANTHONY SCARDINO, JR., EXECUTIVE DIRECTOR, HACKENSACK MEADOWLANDS DEVELOPMENT COMMISSION

Mr. SCARDINO. Thank you, Mr. Chairman. I do have a lengthy text, but I will summarize most of it. I think for the most part, a lot of it has already been said. Of course, we offer for the record the entire text and attachments.

The Hackensack Meadowlands Development Commission is located in the northern part of New Jersey. It is 20,000 acres approximately, 32 square miles, 6 square miles larger than the island of Manhattan. It is three miles wide and ten miles long, and right through the middle of it is the Hackensack River.

The condition prior to 1969 was unquestionably an open invitation for abuse. It was a tremendous loss of the ecosystem, we had a dead river, we had a tremendous loss of wildlife and indiscriminate and illegal dumping was the order of the day.

In the late 1960s, the legislature of New Jersey and the Governor enacted into law a bill that created the Hackensack Meadowlands Development Commission. This Commission was given three essential mandates; to preserve the delicate balance of nature, to provide for orderly economic development and to manage the solid waste that was being dumped in the meadowlands. From that time up to two and a half years ago, almost 30 to 40 percent of all the solid waste generated in New Jersey was dumped in those wetlands.

In 1972, this newly formed Commission enacted its master plan. As a result of that master plan and the work that has gone by the professional staff over the last 18 or 20 years, wildlife has returned in great abundance, the creeping solid waste has been confined to specific areas, and instead of spreading it out and taking up all the wetlands, we built mountains, instead, of garbage.

Nearly $2 billion in private capital construction has been a reality in that district in that period of time producing annually 3,000 to 4,000 jobs. We have become a model major regional planning agency, a prime example of private-public cooperation.

If this Commission did not exist, neither would what we have left of the Hackensack ecosystem. There would be no wetlands to talk about, there would be no purpose for my being here today. The basic objective of the Clean Water Act is to restore and maintain the chemical, physical and biological integrity of the waters of the United States. We have been doing just that—trying our best to do the best we can. Successfully for the last 20 years, in spite of serious constraints and obstacles, particularly as a result of our location, we feel we have succeeded.

It is by no means pristine, not in this area of the country, this most densely populated area of the most densely populated State in the country. But with creative skills and applications of private dollars, we are turning it around.

In the early 1980s, the EPA and the Army Corps of Engineers took an active interest in our district. As a result, major developments, mitigation and preservation of wetlands have come to a halt. Developers submitted proposals consistent with our master plan to the Federal agencies. The result of that was a multi-government, bureaucratic maze—no, a nightmare—where many are still lost, and others have given up.

In 1986, my Commission decided that we should take an initiative. That initiative was to call upon EPA and the Army Corps to develop a Memorandum of Understanding. Our belief was, like yours, Mr. Chairman, as you stated earlier, was that we wanted to see if we could get one person somehow to consolidate things so there would be one entity that would make the kinds of decisions that people were looking for. Right now, there were too many umpires on the field.

We initiated this process to reach an understanding with all parties involved in regulating wetlands within the district boundaries. The premise is that we live here, we work here, we raise our children here. We have a greater stake and concern than anyone to live in a clean environment.

The Memorandum of Understanding was signed, which was a significant milestone. A lot of people said we couldn't do it, we couldn't get the Federal bureaucrats to sit with us State bureaucrats and come to some kind of agreement on an MOU. This MOU, which is unique, recognized that the Meadowlands Commission had a planning function, that there would be instances in which the public interest can be served, by filling or altering wetlands.

Maintaining the integrity of the ecosystem would allow our Commission to serve as a permit applicant for all development and require that Federal agencies and our Commission work together in reviewing and approving those applications.

The outcome of the MOU is a process that we are now in, where we want to achieve, as a final outcome, the development of a Special Area Management Plan, better known as SAMP. The principal objective we are seeking in SAMP is to deal with the requirements of and work together and take into account Section 404 of the Clean Water Act, Section 10 of the River and Harbor Act of 1899, the Resource Conservation Act, and whatever other applications are involved, we would literally work together in applying them.

In effect, this new plan would be consistent with all requirements of Federal and State environmental laws and Federal permitting decisions on a case-by-case basis, and that will no longer undermine our genuine efforts in wetlands preservation. In effect, the current bureaucratic maze will be reduced to one agency. Developers will know where they can build, and to be allowed to do so—what their contribution will be to the preservation of the environment.

We all want good government, and we all know that good government means, among other things, that local, regional and State and Federal civil servants must be able to integrate their respective authorities, concerns and missions in a way that adequately balances the competing interests within their overall mandates. Good government requires responsiveness to these constituents rather than delay in decision making. In short, good government requires sound direction, and commitment to purpose.

We trust that a comprehensive revision to our master plan, which takes into account all of these competing factors, will put an end to Federal second guessing. Everyone needs to know what the ground rules are, and be assured that they will not be caught in a cross-fire between Federal and State agencies. Vast amounts of resources are required to formulate individual development plans and these plans should be directed toward complying with an overall master plan.

Permit by permit decision making is not an effective way of protecting and restoring wetlands resources as advanced comprehensive planning can be.

We have been working on this problem for a number of years. We have some obstacles. We believe there a number of areas that should be considered in achieving the goal of no net wetlands values lost within the context of an overall master plan for a wetland area. These include the following issues.

First, there must be a commitment by top management to remain actively involved in this master planning process. We are seeing some signs of delays and difficulties as well-intentioned bureaucrats argue over the meaning of some of the provisions in the agreement.

While this dialogue may be constructive at first, the time delays that ensue subsequently become destructive. I am attempting to arrange a meeting with Mr. Constantine Sidamon-Eristoff, recently appointed administrator of EPA's Region II, and Colonel Ralph Danielson, New York Corps District Engineer, to pursue and resolve these concerns.

At the same time, I believe that regular meetings of top management officials will ensure that the process does not become bogged down through bureaucratic bickering and fail.

Second, there must be a commitment to develop interim procedures that address some of the problems with the overall SAMP is under development. While the agreement committed all parties to adopting interim joint processing procedures, which allows the existing master plan to remain alive and active, but all parties, Federal and State, would come together to review these applications as they are made.

While this process in and of itself is in effect—we are doing it together—a simple agreement that all parties agreed several months ago, the language has been agreed to word for word, it has not yet been signed. I don't know the reason why. I am willing on behalf of my Commission to make a personal commitment to find out.

Third, regional planning agencies such as the Commission cannot be expected to bear all of the costs. There are no funds, either State or Federal, for the restoration of wetlands. How then does the Hackensack Meadowlands Development Commission restore this blighted area without some limited development and a program to have developers pay for wetlands preservation and restoration? They are not going to do that unless there are some economic gains.

Fourth, there must be recognition by the Federal Government and the personnel implementing the Federal programs, that there are varying types and values of wetlands. A single nationwide standard is simply unworkable. The wetlands of the Meadowlands, probably the most assaulted in the United States, are in need of restoration. Badly despoiled, these areas have all types of environmental problems, so it is impossible to treat them like we would treat other pristine areas of the country.

Federal funding is necessary to purchase privately owned wetlands deemed to be so ecologically desirable as to warrant perpetual protection. We cannot expect private landowners to bear the economic consequences of society's decision to protect wetlands.

Finally, we must ensure that goals such as no net wetlands loss, and restoring and maintaining chemical, physical and biological integrity, are not viewed in a vacuum. They must instead be viewed in the context of available and limited Federal authority. Federal wetlands regulations were never intended to limit growth, and therein lies a significant problem. If the statutes are intended to regulate growth, then they should be revised to provide the tools to do so.

Meanwhile, Federal policy must take account of different and perhaps complementary authorities, including zoning of regional and local governments, and the overall desire to balance man's need for development of housing infrastructure and public necessities and related work with the functional values offered in a functional ecosystem.

We cannot lose sight of the overall objectives by allowing ourselves to become bogged down in an isolated swamp of regulations. We cannot hide from the issues by avoiding decisions. The agreements signed by the Federal agencies, the State of New Jersey, and my Commission, is a major step in the right direction. Its goals cannot be stalemated, however, by bureaucratic second guessing and delays.

I am determined to ensure at top management involvement that such a problem that has predominated this issue in the past will not continue to prevail. Congress needs to temper the various goals of the Clean Water Act to ensure a valid and legitimate role for local, regional and State governments.

Congress needs to provide incentives to the states to assume the administration of Section 404 programs in all waters and wetlands within the boundaries of the states. In short, Congress needs to focus these competing demands through legislative direction in a way that ensures that State and local governments closest to the problem can forge the protection needed for these valuable resources.

Thank you, Mr. Chairman.

Mr. HAYES. Thank you very much.

Mr. Redd, I want to back up—actually, both of you gentleman, you and Mr. Scardino, touched upon the compensation issues and the competing interest issue. Just in observing the hearing today, I don't think anyone would pretend that it is the role of the Congress to make decisions to get to the point of management where a shopping center on the corner of Ambassador and Caffrey in Lafayette, Louisiana is or is not a wetlands and should or should not be permitted.

But it does seem to me that we must establish the framework for the competing interests. We must put it in such a manner that the public is served, through its representatives of government agencies, and we must put it in a manner where the public is served with environmental concerns.

At the same time, it seems to me that in the two and a half hours we have been sitting in the hearing, no one has mentioned the rights of the landowner. It is extraordinary to me that we are skipping that part, where the rights that inure to the benefit of someone who acquired property are virtually forgotten, instead, in a maze of what they do when they take action.

Nor have we recognized the extraordinary diversity, though we say it, we never are willing to confront it, and come face to face with the fact that one of your clients building a shopping center and one of my rice farmers in south Louisiana who has farmed for 20 years are not in fact the same activity to be judged in exactly the same manner.

Some of those who own forestries in Allen Parish are not either of them. Recognizing that, it appears to me that we have the burdensome chore of going into those rules. In so doing, we have to make sure the competition includes all of the interests and can exclude some.

Am I correct—Mr. Redd, earlier when you were talking about compensation, are there cases where arguments that are virtually the same as expropriation are taking place? In other words, through an activity, as in my area of south Louisiana, through inactivity, areas that are not wetlands can be converted to a wetlands, because of erosion resulting in property to the south of that. No one has allowed anyone to permit anything to stop it. Is it not in fact a taking by government?

Mr. REDD. Mr. Chairman, I had a client—we have resolved it now—that had that very problem. The Commonwealth of Virginia built a highway that in effect created saturated soils that were conducive to wetland vegetative growth. His prior dry property became wetlands. It was not inundated, soils were saturated. He went to develop the property, and found that he now had wetlands which had not been naturally created. He went to the Corps and was denied a permit to build on those wetlands.

We brought that to the attention of the Commonwealth of Virginia Highway Department and resolved that. There was some compensation. I think his situation points up the unfairness that landowners who happen to own some property that is by some definition wetlands, pay the price.

Mr. **Hayes**. Secondly, I am very concerned that someone knows what a wetlands is, despite our saying that, for example, the 404 permitting, there are some witnesses here who are secure in that. There have also pretty much a background and expertise to allow them to make that decision. Yet, I'll bet you if we take the same site in south Louisiana, I can take three witnesses who will give me a different opinion under Section 404, as to whether the criteria of soil and plant life and hydrology in fact meet those requirements.

I am not so sure that that allows the competition to occur at the level we are all parties and represented at, either. And where the complexity alone, and the number of permits out there prevent action from taking place. As I said at the start of the hearing, that's fine if all we are talking about is a current land use, which if left unabated does no harm, where someone wants to construct a levee or a building or a shopping center, then delay does not matter.

Delay does not matter in the ultimate scheme of things, but when erosion and attrition are changing dramatically all of the land mass, then it matters a lot. If we are going to look at competing interests, then we have got to say that a landowner whose property is disappearing under his very eyes has rights.

We are not talking about factories that are polluting the air. We are talking about empty ground that is disappearing, and which can never again be the home of fur-bearing animals, or fish, or any of the economic mainstay in what is in my case south Louisiana, or other points of New Jersey or elsewhere.

If we don't address those as different things, we are not addressing the problem. If we get so bogged down in competing turf wars between agencies, then the only body that is totally unrepresented is the public. They are not being served, going far beyond landowners.

It's frustrating. I am not on anyone's side. What's hard to say is that when 535,000 people send you here, they get into fights with each other. Some of them raise cattle. Some of them are shrimpers. Some of them have wooded areas. All of them have competing interests.

My job is to make sure there is a mechanism that is fair, and to recognize too, as owners of a property, they have that right as well. The public interest must be served, but it will never be served with what is in effect a bureaucratic anarchy, where there are no rules that are readable, where there are no rules that are followable, and where no one has structured a mechanism that makes a determination as to who can go forward and who cannot.

I am concluding without questions. I seem to be the only one left. I just wanted that point to be in the record. I live in an area where I don't have very many environmentalists if you use the term like those of you who are well-educated, and with the background in the sciences to use it. But I have a world of environmentalists—I have people who live in wetlands, and it does not mean a study to them, or a piece of paper—it's their whole lives.

It's the area they want preserved for their children. They want to hunt and fish in the same places that their parents did. They don't have the educational background, but they sure have the motive.

If you take a sample of their opinions and poll them, you will find that there is no group of environmentalists on the earth who are more interested in the preservation and yet at the same time, they have the frustration that they are seeing towns disappear, like Pecan Island, Louisiana, because nothing's being done. So the town is going to be gone. They know that something is wrong. Inactivity results in devastation. They blame Government collectively for it, and they are right.

Mr. **Redd**. Mr. Chairman, may I make one final point?

Mr. **Hayes**. Please.

Mr. **Redd**. I sense that your frustration in your argument is that there are competing policy questions here and the needs of the many and the needs of the few, and how to deal with that competition.

The new wetlands delineation manual has, in spite of testimony that you have heard to the contrary, I deal with it on a daily basis by people who call me up and ask for help, they have been told that they own some property that a year ago was not a wetland, and now is a wetland because the methodology has changed.

The new wetlands manual is a dramatic policy document. It is resulting in appropriation of property, not based on truly a scientific analysis by a body of scientist who say that these types of wetlands should be protected because they perform some functional value. The Clean Water Act has no definition of wetlands. It is only in the regulations and it is very, very broad.

I say that having spent three and a half years doing wetland research. I am an environmental scientist by background. There is no bright line between what is a wetland from a scientific standpoint and what is not a wetland. Yet, this mysterious group of individuals who have crafted this document called the delineation manual have made a policy decision. They have declared that this is the way they are going to protect these kinds of properties.

The policy decision is, "What are these types of properties?" I urge Congress to look at that very closely, it is an enormous policy decision, not a scientific decision.

Mr. **Hayes**. I would like to thank all of you very much.

We will adjourn; I believe Mr. Nowak will be back at 2:30. Thank you.

[Mr. Redd's prepared statement, submitted on behalf of William B. Ellis, appears on page 1509.]

[Mr. Steinberg's prepared statement appears on page 1607.]

[Mr. Scardino's prepared statement appears on page 1519.]

Mr. **Nowak** [assuming chair]. In order to move the program along we will create a panel, Jan Goldman-Carter, counsel for the Fisheries and Wildlife Division, National Wildlife Federation; Linda Winter, Program Director for the Wetlands Watch Program, Izaak Walton League, and John F. Smolko, Jr., director of Federal relations of Ducks Unlimited, Inc.

Ms. Carter, please proceed.

TESTIMONY OF JAN GOLDMAN-CARTER, COUNSEL, FISHERIES AND WILDLIFE DIVISION, NATIONAL WILDLIFE FEDERATION; LINDA WINTER, DIRECTOR, WETLANDS WATCH PROGRAM, IZAAK WALTON LEAGUE OF AMERICA; AND JOHN F. SMOLKO, JR., GROUP MANAGER, GOVERNMENT AND LEGAL AFFAIRS, DUCKS UNLIMITED, INC.

Ms. Goldman-Carter. Thank you, Mr. Chairman, and Congressman Stangeland. Thank you for the opportunity to present to the Water Resources Subcommittee this statement on recommendations for legislation to better protect our nation's wetlands.

We also presented testimony back in April of last year, when this series of hearings first began. I will not repeat that testimony. We dealt a lot with the importance and value of wetlands, and some of the forum recommendations at that time.

The National Wildlife Federation and its 5.8 million members and supporters have been working to protect wetlands since the Federation was first established in 1936. We were an active participant in the National Wetlands Policy Forum and we strongly support its recommendations. Our members and colleagues in the environmental community have actively fought to protect wetlands, calling and writing letters to their elected officials, attending pubic hearings, and organizing and supporting litigation where necessary.

In the past year alone, we have distributed over 5,000 copies of "A Citizens' Guide to Protecting Wetlands" to individuals who have requested from us information on how to protect wetlands. Hundreds of these requests have been from individuals struck personally by this Nation's loss of wetlands. These are citizens who have taken the time to try to protect particular wetlands from destruction. They are concerned enough to spend hours on the telephone with agency officials and at public meetings, writing or calling us to help with their efforts.

These people are waterfowl hunters, sport fishermen, commercial fishermen, birdwatchers, beachcombers, researchers, and just plain concerned citizens. I might add that Mr. Pierce, who testified earlier, and suggested that he represented most professional ecologists—I don't believe he does.

As a professional ecologist myself, I don't feel he represents me, and I would like that to be on the record. These people are our members and your constituents. National Wildlife Federation urges you to keep these constituents in mind as you deliberate on the future of wetlands protection in this country.

Balance is a word we have heard often in these wetlands hearings. We must balance the need to protect wetlands with the need for economic development. We, too, submit that there has been no balance in the past, and it is precisely that failure to weigh wetlands in the balance that has led to our massive loss of wetlands. It is time to strike a new balance that recognizes and accounts for the cost to society of destroying these vital natural resources.

Common sense is also a phrase we have heard a lot in these deliberations. We must use common sense in deciding when to let wetlands be altered. The common sense of the past is what has led to the tragedy of the commons, the loss of valuable public resources because their use was not controlled. The common sense of the future must be one that preserves our quality of life, and the resources on which we all depend. Balance and common sense, applied to wetlands, cannot mean the status quo continued loss of about 300,000 wetland acres a year.

National Wildlife Federation urges this Subcommittee to lead our country into the decade of the 1990s with strong wetland protection legislation.

Briefly, I will itemize the key recommendations we have which are consistent with the National Wetlands Policy Forum. One is to issue a clear, no overall net loss of wetlands goal to all Federal agencies. This will galvanize agency efforts to protect wetlands. Second, to expand the 404 program coverage to explicitly include drainage, dredging, flooding, clearing and other significant physical wetland losses, as well as the discharge of dredged and fill material that is covered at this time.

In addition, we need to tighten up the general permit program of the Corps, to close the hemorrhaging loss of the wetlands that is occurring through the nationwide permit program. That can be done at the direction of this Subcommittee.

In addition to what the Subcommittee has the authority and the jurisdiction to do legislatively, it is important—two other very important components of legislation overall must be to tighten the Swampbuster provisions in the 1985 Food Security Act, to strengthen them to reduce the loss of wetlands, and to amend the Food Security Act to provide for an agricultural wetlands reserve.

We must have a combination of regulatory and non-regulatory efforts to stem the loss of agricultural conversions of wetlands.

Congress should also enact an aggressive wetlands restoration program to add to the credit side of the no net loss ledger.

I would like to take a minute or two to respond to some of the criticisms that have come up rather consistently in these hearings thus far.

Much of the opposition to the 404 program appears to be due to what is the current definition and delineation methodology for wetlands. It seems to come down to a question of whether we are going to define wetlands scientifically or politically.

As Ralph Morgenweck mentioned this morning, we believe the scientific definition of wetlands, the definition of wetlands that is currently being used by the Corps, EPA and the Fish and Wildlife Service, and the delineation methodology are scientifically based. These are in response to the requests of the development community insisting upon a consistent definition. Now we have it, we shouldn't mess with that methodology, we should work with it. It will tell us where the wetlands are.

Second, another major concern which has been raised is the takings issue. The takings issue I think has been exaggerated in these hearings. Obviously, when we have public resources on private lands, we have a question of equity about how the allocation of the responsibility for protecting wetlands should work. Rarely does that rise to the level of a constitutional taking.

In the 15,000 per year permits that have been authorized over a 17-year period through the Corps program, we have not seen to our knowledge a case where it was decided that the denial of a permit resulted in a constitutional taking.

In the cases where it does, we should be prepared to pay a landowner who truly loses all economical uses of his land.

Probably most importantly, we have to give, in my view, Section 404 a chance. We have heard a lot of half-truths. A good example is the testimony of the Washington Legal Foundation legal counsel, Mr. Pozgai, through Mr. Kamenar. Mr. Kamenar, representing Mr. Pozgai, paints him as a poor immigrant, trying to fulfill the American dream, who falls victim to a complex regulatory program and sneaky Federal regulators.

In fact, in reviewing the trial transcript, it is clear that Mr. Pozgai was advised even before he purchased the land that 404 would apply to it. He was advised on numerous occasions to stop dumping fill material, which he disregarded. The judge who sentenced him said "It is hard to visualize a more stubborn violator of the laws that were designed to protect the environment. I think the sentence has to take into account not only punishment for that high degree of willfulness, but also serve as a deterrent to others."

This is the kind of half-truth we have been hearing in these hearings. But assuming that we have been hearing some element of truth about concerns in the 404 program, it is very important to recognize the root causes of those problems. The problems of delay, inconsistency and uneven treatment by regulators can largely be explained by the handicaps under which this program has labored.

To a very real extent, the problems in the program are creatures of Congress itself. Section 404 was enacted without a single clear mandate, and put in the joint control of the Corps and EPA, two agencies which have historically had different missions.

Then the program was deprived of the personnel, the travel and training funds necessary to adequately serve the public and protect wetlands. For the first time in the history of the 404 program, the stars seem to be aligned to make this program work.

We have the Corps recognizing its wetland protection mission. The Corps, EPA and Fish and Wildlife Service agree on a common definition and delineation methodology. The Corps and EPA agree on mitigation policy. And both agencies are beginning to get the funding they need to function properly.

If Congress is really interested in protecting wetlands, it will not condemn this program based on isolated horror stories of past performance, but give it a chance to work. Indeed, as we have noted, the 404 framework should be expanded to cover other major wetlands alterations as well.

The agricultural conversion of wetlands is another issue that has come up consistently in these hearings. The farmers indicate, as testified to by the American Farm Bureau, that they are interested in cooperative efforts on wetlands.

But the resolution of the Farm Bureau goes on to say that they are not willing to accept payments of money for permit easements. So easements are out, regulation is out, I think the Farmers Home

Administration experience demonstrates that it is going to be very hard to satisfy the agricultural community on a solution that is cost effective.

In the FmHA discussion, we have seen—basically we have seen farmers who have lost their lands through defaulting on subsidized loans and want to buy them back out of the inventory, out of the Federal property. They do not want to see deed restrictions put on those lands to protect wetlands. To me, that's the kind of cooperation we ought to be able to expect from the sector of the economy that has really been the major part of the wetlands loss problem.

We, too would like to work cooperatively with agriculture. But they have to be part of the solution.

Finally, the highways, the water projects, and other infrastructure development must also be part of the solution. Much of the criticism we have heard in the testimony from the highway interests and the water developers sounds a lot like just not wanting to be second guessed on their engineering.

I would submit that in the last 40 years, when infrastructure was critical to growth, and growth was the be all and end all of our society, that may have been all right. But now, environment needs to be balanced with growth, and the highway engineers and the water project developers need to be working with biologists and hydrologists to develop the most environmentally sensitive projects that can be developed in a cost-effective manner.

No overall net loss of wetlands is a goal that recognizes the need for balance and common sense. It does not mean no growth, but environmentally sensible growth. The combination of regulatory and non-regulatory programs will be necessary to achieve this goal, and to move on to the long-term goal of increasing the quantity and quality of our Nation's wetlands.

For these to be put into place, this Subcommittee must take a leadership role. The avoid first, then minimize and finally compensate mitigation scheme of the 404(b)(1) guidelines and the recently enacted MOA, has withstood the test of time and makes sense. This scheme must be at the core of any realistic no net loss of wetlands effort.

Rather than weaken 404, National Wildlife Federation strongly encourages and urges this Subcommittee to strengthen it by explicitly stating that no overall net loss of wetlands is a national goal and by expanding the wetlands alteration activities covered by the Act beyond just the discharge of dredged and fill material.

This Subcommittee should also work to ensure that the Corps receives the necessary resources through permit fees and otherwise to administer this complex program efficiently and fairly.

Thank you, Mr. Chairman, for the opportunity to appear before this Subcommittee.

Mr. **Nowak**. Thank you very much.

We will now turn to Linda Winter for her testimony.

Ms. **Winter**. Thank you, Mr. Chairman.

My name is Linda Winter, and I direct the Izaak Walton League of America's Wetland Watch and Chesapeake Bay programs. On behalf of the Izaak Walton League I am pleased to be here today to discuss some of our views on what national wetlands policy and comprehensive wetlands legislation should encompass.

Formed in 1922 over concern for our nation's declining water quality, the League is one of the oldest national conservation organizations in the country. We have long recognized wetlands as some of our most valuable natural resources, having been instrumental in the creation of the Upper Mississippi Wildlife and Fish Refuge, encompassing vast wetland areas, in the early 1920s. Our more than 50,500 members are avid hunters and fishermen, conservationists and outdoor enthusiasts who depend on wetlands for their recreation and enjoyment.

The League strongly believes that one of the ways to achieve greater wetlands protection in the no net loss goal is through citizen involvement and education. Through our Wetlands Watch program that we began in 1983, we conduct citizen workshops and distribute informational materials. Citizens learn of the values and functions of wetlands, and about national programs in which they can participate, such as Section 404 of the Clean Water Act, Swampbuster and the North American Waterfowl Management Plan.

To give you an idea of the strong amount of interest there is out there on the part of citizenry in protecting wetlands, since January of 1989, we have distributed over 3,000 of our Wetlands Watch Kits nationwide. The demand keeps coming in.

League chapters across the country are also very involved in hands-on wetland protection and restoration efforts. For example, in New Jersey, our Ocean County chapter is trying to preserve Reedy Creek by Federal acquisition of this unique area through the Land and Water Conservation Fund and through private donations.

Time is of the essence, since three residential development projects are proposed for this area at this time.

In Maryland, our Harford County chapter owns 356 acres of wetlands on Otter Creek, soon to be designated a National Estuarine Research Reserve. The chapter has developed canoe and walking trails, and it is in the process of developing an interpretive nature trail for the blind. The area is also used for educational purposes for high school students in the area.

I also give an example of our New London chapter in Minnesota, which has been involved in a wetland restoration effort since 1920. In 1914, a few farmers unfortunately drained the waters of Timber Lake, a 450-acre, 9-foot deep pool, to create more farmland. However, the soil was found to be too poor to farm. The chapter members tried over the years to convince surrounding landowners to restore its water, but fears of flooding prevailed.

Then in 1985, some beavers moved in and built a dam right where the chapter had proposed to build one. The landowners were therefore convinced. In 1988, the chapter then built a water control structure, using their own money and cost-share money from the Soil Conservation District. Since then, the restored marsh has been providing excellent habitat for a variety of waterfowl and shorebirds, as well as muskrat, mink and beaver.

As you can see by the few examples I have given you, the League has been very active on wetlands issues, both nationally and locally. Although citizen education and involvement in wetlands protection is critical, it alone will not achieve a national no net loss of wetlands goal or a net resource wetlands gain. Comprehensive national wetlands policy and legislation is obviously needed.

Before the National Wetlands Policy Forum released the recommendations for wetlands legislation, we came up with a few recommendations of our own. At our July, 1989 national convention, where hundreds of delegates came together to set League policy, the delegates unanimously adopted the resolution, Wetland Preservation and No Net Loss of Wetlands, a copy of which is attached. Our recommendations, directed to the Domestic policy Council's Interagency Task Force, are relevant to the subject of today's hearing, and include the following issues:

Avoid wetlands first and foremost, since the most cost effective and efficient way to achieve no net loss is to avoid the loss of existing wetlands.

Eliminate Federal Government programs that subsidize and encourage wetlands destruction.

Increase funding for nationwide wetlands mapping, not only to provide more certainty to the public and the regulated community regarding the location of wetlands, but also to provide a benchmark to determine if we are achieving the no net loss goal.

Increase funding for Federal restoration projects and programs as authorized now under the North American Wetlands Conservation Act.

Require mitigation through the sequential process of avoiding, minimizing, rectifying, reducing and lastly compensating, through restoration or creation, for unavoidable adverse environmental impacts due to a proposed project. This mitigation process is now contained in the MOA between the Corps and EPA.

Require no net loss of both acreage and function of wetlands, and compensatory mitigation on a greater than one to one ratio, so that the loss of wetlands functions are compensated to the greatest extent possible.

Require onsite compensatory mitigation, or in the same watershed if that is not feasible or would be unsuccessful.

Require long term commitment to the success of mitigation projects, and endorse wetland restoration as the preferred method of compensatory mitigation.

Do not allow the use of wetland gains in one watershed, eco-region or State to offset losses in another watershed, eco-region or state.

Do not allow the use of ongoing programs, such as the 1985 Farm Bill, or the North American Waterfowl Management Plan, to offset losses sustanied in other programs, like Section 404 of the Clean Water Act.

Stop the filling of wetlands for non-water-dependent projects. Require the Army Corps of Engineers to fully implement Section 404(f)(2) to regulate agricultural activities, ditching and draining, designed to convert wetlands to a different use.

Rescind Nationwide Permit #26, which allows the destruction of isolated or headwaters wetlands, and require the appropriate Federal agency to track cumulative wetland losses sustained under other general permits so that it really can be determined if these losses are truly minimal, both individually and cumulatively, as directed under Section 404(e)(1) of the Clean Water Act.

Expand Section 404 of the Clean Water Act to apply to drainage, as well as filling, of wetlands and water courses.

We certainly support adding additional activities and coverage. While our resolution was not meant to be an all-inclusive prescription for how the nation can achieve no net loss of wetlands and a net resource gain, we do believe that if our recommendations are followed, we will move a long way toward these goals.

At this time, I would also like to try to address some of the misconceptions and misinformation that was given earlier in testimony this morning by people from the development community. We heard several times today that not all wetlands are created equal. I would suggest that perhaps they had been once created equal, and now they are not, due to human activities.

There was a suggestion to try to protect high-quality wetlands in this country, and allow the low-quality ones to be developed. We think that is a bad idea, because that removes the "low-quality" wetlands from the possibility of being restored and enhanced. These are excellent areas to go to for the compensatory mitigation projects that are going to be required and continue to be required.

Also, to decide what is the low-quality wetland or a high-quality wetland is very subjective. Who is going to make that decision, how is it going to be made, and can we trust the people who are going to make that decision?

I believe the State of New York tried to rank wetlands within their state, they tried for about a year. They threw up their hands after finding that it was totally impossible.

Also, the 404 goal—the goal of the Clean Water Act was to restore the waters of the United States, the chemical and biological integrity—not to make it easier for developers to develop in wetlands, or in sensitive areas. We need to keep that in mind when we address some of the concerns of developers in terms of the permit process.

I think there has been a misconception and sort of an attempt on the part of the development community to make it sound like they can't get their permits, they are waiting around forever, etc. The fact is that over 97 percent of the permit applications up for review are approved. I don't know if you have heard that before, but it is true.

Secondly, probably about 90 percent of all the permits that are reviewed are issued within the 90-day framework period. There are very, very few that do get held up for a long period of time. That is because they are very controversial projects, there are many factors to consider.

Also, we have heard this morning about the possibility of bringing 404 into one agency. We feel that EPA, and Fish and Wildlife Service have developed a lot of expertise in the environmental side of things, and that they should not be legislated out of the process.

It sounded like from testimony earlier today that there was no kind of a public interest review, that the public concerns and needs and considerations are not being taken into consideration by the Corps. That is not true. There is a public interest review, and I can provide the Committee with a list of factors that the Corps takes into consideration when reviewing permit applications.

Very few of them actually are environmental considerations, most of them are cost factors.

Finally, we heard today from some of the development community that they would like their wetlands creation and mitigation projects to be considered up front in the Section 404 permit application process. We feel that is a very bad idea. We really do need to have mitigation considered as an avoidance, minimization, and finally a compensatory mitigation process. No one has said yet today that our created wetlands, especially, are just in the infant stages in terms of making these projects successful.

Essentially, we are losing existing, naturally-functioning wetlands and not gaining a whole lot in return. So we need to be very cautious and not allow the destruction of naturally-occurring wetlands on the premise of possibly creating them somewhere along the line and maybe they are not going to be very high-quality. Most created wetlands are not very high quality. We are going to end up with a net loss, if not in acreage, certainly in function.

Thank you for the opportunity to submit my comments before the Subcommittee. I would be happy to answer any questions.

Mr. Nowak. Thank you very much, Linda.

Now we have Mr. Smolko.

Mr. Smolko. Thank you, Mr. Chairman.

It is nice to be back to the Committee. I have not yet had an opportunity to sit on this side. Having left, and now gone with Ducks Unlimited, I am pleased to provide these remarks and to be here with both Jan and Linda.

As you know, I am John Smolko, Group Manager of Government and Legal Affairs for Ducks Unlimited.

The value of wetlands is unquestioned. These benefits accrue not only to wildlife, or to sportsmen, or to nature lovers, but to society as a whole.

As we are all aware, there is confusion about what no net loss means, or perhaps more appropriately, what is should mean. Ducks Unlimited, too, has been involved with wetlands protection, we have been in this battle for half a century. Unlike our counterparts here, we have taken a little bit different tact. We have worked to secure an adequate base of clean and properly functioning wetlands upon which waterfowls depend for breeding, mitigation and wintering habitats.

We have some 4,800 projects which encompass over 5.3 million acres. I just left a meeting in Chicago, and I am pleased to report that we raised $67.3 million last year, of which 80 percent will go directly into conservation work, and in the field programs.

The recently concluded MOA between the United States Army Corps of Engineers and the United States EPA, received a late but certainly worthwhile review by the White House. Needless to say, that intervention was fraught with controversy.

But I think each of us recognizes that the 1990s will be the environmental decade and positive achievements will require the cooperative efforts of industry, governments, individuals and organizations. Input by all interested parties, just as this Committee is providing, is essential if we are to develop sound environmental policy compatible with economic prosperity.

The wetland destroying impacts of a project must first be avoided. Next, if projects cannot be relocated, the project impacts must be minimized. Lastly, unavoidable impacts must be compensated for by means of restoration or enhancement of other wetlands. Please note, however, that the intent or ability to pay the cost of protecting or restoring a wetland elsewhere does not give the project proponent any right to destroy wetlands at will, or to expect permit issuance.

Ducks Unlimited recognizes that no net loss likely cannot be fully accomplished on a strictly local basis. Appropriate restoration opportunities may not be available in the local area if available at all, and creating the full range of wetland functions and values on a non-wetland site is far from certain.

Fortunately, the North American Waterflow Management Plan, the National Wetlands Inventory, the National Wetlands Priority Conservation Plan, and EPA's Advanced Identification Program for Wetlands identify on the broad landscape areas which could benefit most from wetland restorations.

Modification or enhancement of wetlands to achieve national or regional conservation or wildlife goals should not be viewed as wetlands loss or destruction as is sometimes the case at present. In our view, one of the tasks of this Committee and Congress should be to develop incentives, and streamline the regulatory process for those individuals and organizations undertaking wetland enhancement and restoration activity.

It is now time to implement a simplified permitting process in cases where the threat is not the loss of a wetland, rather the goal is enhancement and restoration to improve the functional values of the wetland.

While continued losses are to be avoided, wetland gains should not be offset simply because the goal is no net loss. Implicit in the no net loss goal is eventually to achieve an increase in wetlands and their beneficial functions. It does not seem appropriate for one party's wetland gains to be offset by another party's destruction.

For example, if Ducks Unlimited restored 1,000 acres of wetlands a nearby landowner or developer should therefore not enjoy the privilege of destroying 1,000 acres of wetlands simply because a surplus happens to be available. This is common referred to as mitigation banking.

Such a situation as just described exists under the provisions of North Dakota's no net loss legislation. Wetland restoration done in the public interest must be done outside the no net loss parameters.

In conclusion, no net loss of wetlands, including their functions and values, is a laudable goal. It is also an achievable goal, provided all parties involved are held to equal standards of compliance. Ducks Unlimited stands ready to assist the further development and implementation of a no net loss policy.

Thank you for this opportunity to testify.

Mr. **Nowak**. Thank you very much.

Let me refer to some of your testimony on page five. You talked about the North Dakota law and you mentioned the withdrawals, that are mainly drainage for agricultural expansion. In spite of the Swampbuster provisions of the 1985 Farm Bill, under the North

Dakota law wetlands waters are required to pay only 10 percent of the restoration.

When you talk about the agricultural drainage, we have general statistics, at least accepted by many that urban and suburban development is accounting for about six percent of the loss, but there is a natural phenomenon. That's about five percent. That's about 11 percent. Eighty percent is given over to the agricultural community.

Since Swampbusters, have you seen any difference in those kinds of percentage losses, do you still think it is emanating from the agricultural community?

Mr. **Smolko**. Mr. Chairman, I have not seen the figures you refer to. I think Swampbuster has gone a long way to help us in terms of controlling that loss. It seems to be more a matter of enforcement, the problems we are seeing out in the field, where those losses are still occurring and in some of the decisions by the Conservation Service that has the oversight there.

All Swampbuster does, and stop me please, if I am mistaken, is to say the benefits are denied if the areas that have been drained are planted. What tends to happen in some instances is that the wetland would be drained, left idle for a number of years, then without the oversight, coming back in and planting that. So it is more an enforcement issue.

What the Wildlife Federation has referred to is going back and looking at the objectionable offense being the actual drainage as opposed to the planning.

Mr. **Nowak**. Ms. Winter, do you have any comment on that?

Ms. **Winter**. I understand that the 80 percent of wetland loss due to agricultural conversion has been an historical figure. In other words, the wetlands loss occurring between the years 1950 into the 1970s. I think into the 1980s we are seeing more conversion, a higher percentage than six or eleven percent due to urbanization and development.

But I don't know if we really have the figures to put an exact kind of percentage on it. But I would say there has been a slight shift, anyway, in a higher percentage of conversion due to development projects.

Mr. **Nowak**. Would you like to comment on that?

Ms. **Goldman-Carter**. I concur with those remarks. I suspect that agricultural conversion has come down some although we don't have the figures to say one way or the other. In part, this has happened because of economic considerations, and in part, hopefully, because of Swampbuster.

But as John said, our prairie wetlands office in Bismarck, North Dakota, has literally been going through file after file of the Agriculture Department's Swampbuster implementation records. We are quite confident that that program is not being administered as effectively as it could be. It could be protecting more wetlands.

Mr. **Smolko**. Mr. Chairman, if I could—I think part of it has been until recently through the actions of this Committee, for instance, with regard to the Clean Water Bill, some of the other steps we have been taking to actually go out and determine what we have in terms of the number of wetlands. We have not seen that. We have not had a true inventory that says we have X number today, and how many will we have tomorrow. That is part of what has been lacking.

So with some of those, as I mentioned, the Wetlands Inventory Program, the Emergency Wetlands Conservation Act and some of the others, we can begin to get a handle on what the base is out there, and go beyond just the type of wetland, but also to the values of wetlands.

That's another intricate and key component. You can inventory wetlands on a number of bases. You can say that we have so many acres that are wet, but you can also say that you have so many acres that provides this type or another type of vegetative cover, and provides this kind of habitat. But there is much more that we could do from an inventory standpoint.

Mr. NOWAK. You are saying we should have an inventory based on function?

Mr. SMOLKO. Functions and values. I think that is the key component. One of the things we are actively involved with right now with a number of cooperators in California, is to try to bring together Nature Conservancy's work with their Heritage Marsh program.

The State of California's work in terms of their inventory through Fish and Game Department. What the Fish and Wildlife Service has done through their National Inventory Mapping Program, what we are doing through our Landsat Programs, which all have different components of an inventory base to try to bring those together as one to in essence give you a one-stop shop, that says we have a wetland that has this type of characteristic, and has this type of value and function. That's an expensive process, and it is quite a laborious process as well.

Mr. NOWAK. Could the states in the individual counties where those wetlands are located—couldn't they have a state-by-state inventory of the cumulative and we could then centralize that? Would that be a very difficult thing for them to put together next year?

Mr. SMOLKO. That is one of the things that was called for under the National Wetlands Inventory Program that is being run right now by the Fish and Wildlife Service. But absent some incentives to the states, or disincentives, if you will, or penalties, they have been reluctant to actually go forward and expend the dollars and the time that is necessary to generate that.

One of the things I think you find now, in talking with the Service, is for instance the North American Waterfowl Management Plan, where one of the components—I misspoke. Rather than the Wetlands Inventory, maybe it was the National Wetlands Priority Conservation Plan.

But there are some benefits tied to these wetlands areas. If those are inventoried and we have a map of it which the states were to do, if we don't have that, they will not be in line, if you will, or will be at a lower point in standing to receive benefits because they have not taken the action you are talking about.

Mr. NOWAK. If we could provide a basis of function for the kinds of benefits that a State is receiving, before you start talking about programs or incentives or anything else, and look at that particular wetland and see what it is contributing, what are the positive benefits. Then the cost of some of these programs may not be as prohibitive as they appear. But if you just look at them as wetlands, as I guess we have over the last 200 years, you don't have any benefit to offset against the kinds of values or costs that we may need to protect them.

Ms. WINTER. I would just like to add that a lot of times it is difficult to figure out just what the functions and values of a particular wetland were before it was destroyed due to a development project. That's one of the reasons why we stress that we need to try to avoid wetlands destruction. We have a hard time trying to figure out what all those functions are, let alone trying to replace them with some sort of mitigation project.

Mr. NOWAK. How do we get an overall benefit in a state, in an area that is wide geographically, wide enough to convince people that are living there that there is value in adopting some strict kinds of protections for at least the most valuable of those wetlands?

Ducks Unlimited is worried about the survival of certain species of ducks that are being diminished, if nothing else. That's a value. There is also perhaps a town three miles away from where another decision is being made that will be impacted perhaps in the next heavy rainfall, they will be flooded out. That will bring in the Subcommittee again to build a flood control project for umpteen millions of dollars to protect 206 homes that were built on a wetlands that your ducks can't go on, and all the other work that a wetland system performs.

How do we inventory, how do we bring all of this information out, get that base so that we can start to put forth the kind of effort we are being urged to make here, as a Congress, put out to the states and get them to join us? We have talked about regulation, but everybody is against regulation, at least on their property.

Ms. WINTER. At least on their property.

Ms. GOLDMAN-CARTER. I think there are two key points that have come up pretty often in these hearings. One is to have the information base, and all of these are expensive propositions, and that is probably a lot of the problem. But if we had good maps that really showed people where these places were, then we could begin to plan ideally on a watershed or a drainage basin basis. So EPA's Advanced Identification Process and the Corps' Special Area Management Plans are really the type of process that makes sense in the sense that you bring the parties together who share that watershed. That is the hydrologic unit you are talking about.

If you have the inventory data there, you know where the wetlands are, where they used to be, what functions they served, and those are big ifs. But if you have that information and you bring all of the parties together, then you have something to talk about. What functions are these wetlands and these streams serving? What happens if we drain the wetlands upstream? Whose land is going to get flooded by that?

If we drain those wetlands, what kind of runoff will enter the water and affect the drinking water downstream? I could go on. I think that is really the ideal situation, that we could develop that information base, then bring parties together and be able to plan and work out some of those solutions on a drainage basin type basis.

Ms. **Winter**. You were talking about an educational component, how to better educate the communities about their local wetlands. That is one of the main focuses of our Wetlands Watch Program.

We do have communities coming to our workshops or getting our information, and that is the idea, to get them involved with protecting wetlands in their own community, and for them to understand what the benefits are they are realizing from the wetlands. They may not know it, but we are trying to get that information out to them. We are a private group, and funding is limited. I think more educational activities on the part of the Federal Government are also needed, and by the State governments. We need more informational materials put out.

Mr. **Nowak**. Ducks Unlimited has $67 million they could give you.

Ms. **Winter**. We'll take it.

Mr. **Nowak**. I guess what I am saying is if we could have a joinder of all the interests that are out there—in terms of flood control, ecosystem development and all the other valid reasons to protect wetlands—once that is established in people's minds, then the value rises. We are not just talking about a two-acre pond. But 222-acres ponds—they start to make a difference. If there was a way to accumulate those kinds of impacts, I think this whole problem then could be seen in a little different light.

Many of the experts have come to these conclusions by their own analysis, but we have not brought that to the broad public's view. Certainly when an individual has a piece of property that is being affected, he is perhaps not that concerned about the cumulative effect of 25 neighbors five miles away. Perhaps he should be.

But they won't hear about it, because it is five miles away.

In any event, if we could just think about those things and how we could start to formulate those kinds of programs out there, not only to the public in general, but to the other members of the House and Senate, who hopefully someday will be looking at this as a package.

Mr. **Smolko**. In some measure what you are saying is that if we just apply some common sense to what we are doing out there, and look at it from a standpoint of not just a wetland, but as the management of a wetland base, a broader perspective, look at it on a geographical basis—in some measure that is what the North American plan does. It identifies broad areas with different types of wetlands.

Certainly if you went down the road and pulled off the interstate and looked at the pond that has been created because they took fill out to create the roads, it is a wetland area by definition. What true value does it have? What are the functions and values that are being provided there?

Some would argue that you need to take a snapshot now and not do anything more, and only add to it. Look at that as compared to what you could do in another area to put in a dike or a levee and take what is an existing wetland of 100 acres, and change it into a 200 acre or 300 acre wetland—improve its value.

Mr. **Nowak**. Let me turn to Arlan Stangeland.

Mr. **Stangeland**. Thank you, Mr. Chairman. I hope it's not my use of the word balance of common sense that you are referring to—and maybe it is. If it is, that's fine.

I firmly believe, first of all, I think we have to understand that a tremendous number of wetlands have been lost to agricultural production. I would look back even before 1950, back to the 1940s, starting with the 1940s. I think the argument the farmers use in the "taking without due process" claim is where they have been farming land for 20 or 30 years and probably wrongfully from a wetlands perspective. But they have been doing it. They have been paying taxes on it. They are scrunched in a cost price squeeze and resent the idea that they cannot continue to farm this land efficiently.

That's a problem. I think by and large, and I am somewhat surprised and not aware of situations, John, where farmers are draining and letting the field lie. If the farmers in my district are doing any drainage maintenance, it is to farm the next year. It is not to lay it aside, and at some future time come in and start farming.

The main purpose of Swampbuster was to not drain any land that had not been farmed, because we had too much land already. We are purchasing setasides, we don't want to be cropping all this land. I think that ought to be hard and fast. Any land that has not ever traditionally been farmed or agriculturally productive should not be drained.

I don't know why we can't just pass a law that makes that a hard and fast rule.

Then on the other hand, on the other side of the coin, I think these are for the public good. I think you have taken the statement that the public ought to participate in the cost of maintaining that, and I applaud you for that. I hope we can start that with this. The Administration currently allows wetlands to be put into conservation reserve. I am hopeful we can put that into law.

I do have some concerns, and I think everyone has to share that concern. We heard witnesses I believe from the State of Maryland, and the high percentage of Maryland that was considered hydric soils, which precluded any development or construction on any of that soil. It is a scientific definition. I believe in following science as much as possible.

I am appalled sometimes when we look at the Food Safety issue and we ignore science because public perception thinks that something is not good for us, therefore it isn't good for us regardless of what science says. On the other hand, when you apply a scientific designation in some areas, there has to be some way to resolve the conflict that arises then between the landowner, the developer, where there is not a wetland there, it has not been drained. I think you follow what I am saying.

I am an optimist. As a farmer, I had to be. As a politician, I even have to be more so. We are getting to the bottom of the problem, and really getting people to focus on the problem. I think the wildlife groups and the environmentalist groups are to be commended. I hear far more voices of reason today than I heard several years ago. I think that is healthy.

I really think that farmers will be a part of the solution—not all of them. There are some bad apples out there, there's no question.

They like to farm every inch. They don't really care about the wildlife. They don't sense any damage to the environment or the ecology of the future.

We look forward to working with you. I certainly agree, John, and with all of you, that any wetland that is improved, enhanced, or created should not serve as a surplus bank for denigration of wetlands somewhere else.

I have not followed North Dakota law that closely, but for just a little bit of history, one of the problems we faced up there in the prairie pothole region is that the policy adopted a goodly number of years ago on perpetual easements, and the total lack of flexibility on that question. It has created a lot of enemies for Fish and Wildlife, for conservation, when it should be otherwise. I recall a hearing up in Grand Forks, North Dakota, when I first came to Congress, a man came up and said "Are we going to fish or are we going to farm?"

Of course, he wanted to farm. I don't think the choices have to be either-or. I think you can have a combination. Farmers are just stubborn, just like hogs on ice. You push them one way, they will go the other way. That's why I keep pleading for balance—and I wear two hats, a national trustee of Ducks Unlimited, for which I am very proud, and yet I represent a farming district.

I have a lot of recreated wetlands that just are now recreating themselves on my farm. If they were drainable, they have been farmed, have been farmed for years. But you could drive through them in the spring, but probably never harvest them in the fall.

So I thought, why bother? So I let them go. They have recreated. I think this will happen if farmers are given some disincentive to want to farm that sort of thing—forgiveness of taxes, some modest incentive. Certainly you can't pay, I hope you will look at this and think about it. You can't pay a farmer for not draining a wetland in a CRP equivalent to what you pay him for banking fragile lands in the CRP because those fragile lands were economically productive.

That wetland hasn't been economically productive. I think he will be more than happy to receive a credit of some modest portion of a real estate tax, or percentage of a real estate tax, to set that aside as a permanent wetland.

I appreciate your being here, and I think we have room to work together. I have no specific questions, but you are very technical in your testimony. Probably too technical for this farm boy.

Ms. GOLDMAN-CARTER. I would like to make one comment about the methodology, just aside from the technicalities of it. The main point I try to make in my testimony is to try to distinguish between delineation and regulation. Just because with the new delineation methodology there are now areas coming into jurisdiction that the Corps did not include in its jurisdiction before, it doesn't mean you are prohibiting activities on those areas.

The fact that 60 percent of the Eastern Shore may now be wetlands does not mean no one can farm there, or build houses. That's the point I was trying to make. It makes good common sense to throw the net widely on the resource you are trying to protect, use a scientific definition, call a wetland a wetland, even if it is 60 percent. Then bring the balance in, then talk about whether there are practicable alternatives, whether you can avoid or whether you should mitigate it.

That's where the balancing comes in. But it seems to be a knee-jerk reaction, and not a good thing in terms of resource protection to just take those wetlands out of the program altogether, simply because it makes for too many wetlands.

Mr. SMOLKO. Congressman Stangeland, the tailgate diplomacy to which you refer can work, and it has been demonstrated up in the prairies, up in your home state. If you work with them, and provide economic incentives, and make a payment on top of what they might get from CRP, encourage them to take it out, or to set aside lands or come up with some workable programs.

We are encouraged by the steps that the House Ways and Means Committee is taking to look at what they might be able to do through the tax code to provide some environmental tax benefits to encourage environmental benefits. That is certainly one thing we would bring up, with regard to the tax credits for those property taxes they are paying, with the Ways and Means-Committee.

Mr. NOWAK. If there are no further questions, thank you for your testimony.

[Ms. Goldman-Carter's prepared statement appears on page 1415.]

[Ms. Winter's prepared statement appears on page 1658.]

[Mr. Smolko's prepared statement appears on page 1600.]

Mr. NOWAK. Let me now invite Mr. Eugene DeMichele, who is the Director of Technical Services for the Water Pollution Control Foundation. You may proceed as you desire.

TESTIMONY OF EUGENE D. DeMICHELE, P.E., CAE, DIRECTOR OF TECHNICAL SERVICES, WATER POLLUTION CONTROL FEDERATION

Mr. DEMICHELE. Thank you, Mr. Chairman.

WPCF is a non-profit educational and technical organization founded in 1928, devoted to leadership and guidance in the preservation and enhancement of water quality. The Federation's 40,000 members consist of civil and environmental engineers, wastewater treatment plant operators and managers, scientists, and others working in State and local government, Federal agencies, industry, academia and private practice. It is on behalf of those people that I am here today.

I would like to address an area of the current wetlands debate which has been overlooked generally by policymakers and the national media. I might answer some of the questions you had earlier about putting a price tag on the benefits of wetlands, at least in some cases.

As most people know, wetlands provide a habitat for countless species of birds, wildlife, and plants. They also serve an important economic function as a nursery for fish and other valuable aquatic commodities. What very few people realize is the critical role wetlands play in the treatment of wastewater.

Over the past three years, WPCF has developed a technical manual which describes the use of wetlands and other natural systems such as subsurface and land treatment systems, stabilization ponds, and aquatic systems with floating plants, for wastewater treatment. It is on this manual, called Natural Systems for Wastewater Treatment, that my testimony is based.

After passage of the Clean Water Act in 1972, there was a boom in the wastewater treatment plant construction business as Federal monies flowed to the states in unprecedented amounts. WPCF was active in publishing technical manuals describing the design and operation of these facilities.

Although natural systems were discussed in those manuals, there was little interest in using them at that time. Engineers and regulatory officials were uncomfortable with the concept due to a lack of information and unfamiliarity with the technical process.

But the conventional wisdom on wastewater treatment systems has changed since the 1970s. As a result of reduced Federal funding, a much greater body of scientific information, and increased awareness of the value of our natural environment, treatment plants which depend strongly on wetlands and other natural systems are now being considered by design engineers.

Wetlands, which I define as land upon which the water surface is at or above the ground surface for a given period each year, are now being used for wastewater treatment. These can be either naturally-occurring or constructed for the specific purpose of wastewater treatment. Natural wetlands include swamps and marshes. In many coastal plain areas of the southeast and in the poorly drained marshes of the north, natural wetlands have been used historically as receiving waters for wastewater discharges.

In two areas of the country that have been inventoried, EPA Regions IV and V, 326 discharges from wetlands to receiving waters such as streams and rivers have been documented. That means those wetlands are being used for wastewater treatment, either in a planned or unplanned sort of way.

Several natural wetlands modified for wastewater treatment have been studied extensively. Results are positive and have encouraged the construction of man-made wetland systems for wastewater management. Such constructed wetlands have found popularity in Europe, South Africa and Great Britain because they can provide effective and reliable secondary or advanced wastewater treatment.

The use of natural systems offers considerable savings in operation and maintenance costs when compared to conventional treatment producing similar effluent quality. In some cases, natural systems can produce effluent quality comparable with advanced waste treatment at substantially reduced costs.

Wetlands typically require fewer operational personnel, consume less energy, and produce less sludge than conventional systems. Where sufficient and suitable land is available, wetlands often will be the most cost-effective option for both construction and operation. As such, they are usually better suited for small communities and rural areas.

Of the natural systems described in the manual we produced with 50 engineers and scientists from all over the United States, it is a consensus document. In that manual, wetlands and aquatic systems with floating plants may hold the most promise for widespread use. They offer treatment of a continuous flow of wastewater. They can be operated year-round, depending on climate and treatment objectives. The key to their success lies in the vegetation, which absorbs certain wastewater constituents, and in the root system, which supports the growth of smaller organisms which also break down the wastes.

Wetlands designed for wastewater treatment offer many of the same environmental benefits as conventional wetlands. They provide a home for numerous species of wildlife, birds and plants. A site in California has become a favorite place for bird-watching. That is not an isolated incident, either.

The use of natural and constructed wetlands for wastewater treatment is regulated by both Federal and State laws and, in some instances, by local ordinances. Under the Clean Water Act, for example, many natural wetlands cannot be used for the discharge of pollutants. By law, a minimum of secondary treatment must be provided prior to any discharge to natural wetlands. Section 402 of the Clean Water Act requires a discharger to obtain a National Pollution Discharge Elimination System permit for any point-source discharge. Because most of these laws were written before the specific strengths of wetlands technology was understood, the existing rules for wetlands protection may conflict with permitting the potentially beneficial aspects of wastewater management in those systems.

Many states are currently taking an active interest in evaluating the usefulness of wetland alternatives in meeting their pollution control needs. These states include Louisiana, Texas and Mississippi. Florida has even developed a detailed rule for permitting wastewater-to-wetlands projects, thus providing incentive for restoring drained wetlands for their use in wastewater recycling.

It should be noted that not all wetlands can be used for wastewater treatment. Factors such as type and size of the wetland, topography, and type of vegetation are all very important when determining the suitability of a wetland for wastewater management. If the wetland discharges into groundwater, an entirely new and different set of criteria come into play.

In conclusion, natural, restored and artificial wetlands offer a significant opportunity to provide high quality wastewater treatment at low cost under appropriate conditions. This use of wetlands should be encouraged by any Federal wetlands policy.

The Water Pollution Control Federation would be pleased to offer technical assistance to Congress in such an effort. We have provided the Staff with a copy of the technical manual we have produced. I would be happy to answer any of your questions.

I would like to mention in closing that in pursuing the background for my presentation today, I learned that in the early 1970s, the National Science Foundation, with EPA's support, financed some basic research that was done on the use of wetlands for wastewater treatment.

There were a couple of big projects they demonstrated would work, and one of them is still working in Michigan.

From that step, the basic research step, we have gone to the development step. There are wetlands for wastewater treatment projects all over the United States now. Those demonstration projects are working nicely in most cases.

We are at the point now where we have gone through the basic research, we have gone through demonstration and now it is the application stage. It is this application stage that we at WPCF are most concerned about. We don't want to discriminate against it through this Federal law.

Thank you for the opportunity to testify.

Mr. NOWAK. Could you generally describe for us the process that goes on as secondary treated water is released?

Mr. DEMICHELE. Into the wetlands?

Mr. NOWAK. Yes, into the wetlands.

Mr. DEMICHELE. The initial process, of course, is the screening, the removal of the solids, the removal of suspended solids, the secondary treatment, which could be physical, chemical, or biological, and then, in many cases disinfection. That is primary and secondary treatment.

After secondary treatment, in whatever manner it is done, the wastewater is transported and distributed through the wetlands system in some sort of a distribution pipeline or weir or gauging system.

Mr. NOWAK. What characteristics are now left? The primary system would treat by what method?

Mr. DEMICHELE. The characteristics of the wastewater that are remaining? You have maybe 20 milligrams per liter of suspended solids, 20 milligrams per liter of oxygen demand. We measure it in a term called BOD, or biochemical oxygen demand. There are heavy metals in there. Certainly if you don't sterilize, which no one does, but just disinfect or not disinfect, there are pathogens in there, viruses and bacteria. Those are the things that remain.

Mr. NOWAK. What is TSS?

Mr. DEMICHELE. Total suspended solids.

Mr. NOWAK. Then as that water is released into these areas, what happens with the remaining characteristics?

Mr. DEMICHELE. The terrific aspects of wetlands is that they are there because there are large concentrations of nitrogen and phosphorus, or nutrients, or other organic materials, naturally flowing into the wetlands. Generally, they are non-point source pollutants that are coming into the wetland, the wetland uses different plants that flourish, other organisms grow and that's why you have a wetland.

If you direct your wastewater into the wetlands, the nitrogen and the phosphorus are taken up by the plant growth. You are also getting rid of the organic concentration because of the microorganisms in the wetland system. The PH, if there is a PH problem, is stabilized in the wetland system.

What you are left with is what we call an Advanced Waste Treatment Facility, or an AWT facility, where you have very little nitrogen, very little phosphorus, little or no organic material. The heavy materials are taken up by the plant growth. It is a wonderful system.

Mr. NOWAK. How large are some of the demonstration projects you are talking about?

Mr. DEMICHELE. The acreage varies. First of all, it is something to be excited about. In rural communities where you have land, you will need 60 to 100 acres per one million gallons a day—60 for certain natural systems, 300 acres for other types of natural systems. You need a lot of land. But in small rural communities, it works out nicely if you have that kind of land. That is not a liability.

The advantage is that you are talking about an operational cost in the neighborhood of ten cents per thousand gallons for Advanced Waste Treatment. Let's say you set up a lagoon system as your primary-secondary system in a rural community. Whatever that costs, you then tack on an AWT facility through this wetland system. You are spending an extra 10 cents. The upper Occoquon plant, in Virginia, where they are forced to go to AWT, is spending three or four dollars per thousand gallons for AWT.

These are good opportunities to provide the removal of the nitrogen and phosphorus which cause eutrophication, and at low cost for these communities that now are shut out from Federal grants for the construction of wastewater treatment plants—a perfect opportunity.

Mr. **Nowak**. When you talk about the vegetation, have you seen increases in other aspects of wetland-created—in terms of the animal life?

Mr. **DeMichele**. I don't know that, sir. We can find that out. I do know that aquatic growth, in some cases doubles. There may be the problem of harvesting that growth. You may have to cut the grasses, cut the weeds and do something with them. I don't know about the animal life.

I do know that the study in Michigan which ran through the 1970s into the 1980s showed that the wide diversity of insects—that part was made clear—but about the animal growth I don't know.

Mr. **Nowak**. Mr. Stangeland.

Mr. **Stangeland**. Are all discharges secondary treated discharges, or are some primary?

Mr. **DeMichele**. The studies are varied. Of course, in the United States you have to have a permit for secondary discharge. You have to have secondary discharge before they will allow you to dump it into a river stream. I imagine that they would probably enforce that same type of thinking on wetlands.

However, in other countries, they screen, settle—that's primary treatment—then from primary treatment they go to wetlands. Not in every case, but in many cases.

Mr. **Stangeland**. Do you have a demonstration project where there are discharges into wetlands just after primary treatment?

Mr. **DeMichele**. No, sir. I do not know of that circumstance.

Mr. **Stangeland**. Then what you are doing is using a wetland where tertiary treatment might be required, in lieu of tertiary treatment?

Mr. **DeMichele**. In a constructive way, and in a planned way. But in fact, for non-point source pollutants, we are doing neither of those things. Those pollutants, from farm runoff and rural runoff are going directly to wetlands and being treated there. So in a planned sort of way, we are talking AWT for wetlands.

In a now unplanned sort of way, those ecosystems are taking care of the equivalent of rural wastewater, raw non-point source wastewater. That doesn't mean we can't plan those facilities for non-source pollutants. You may, under those circumstances, plan to have a lagoon to capture the first blush after a rainstorm, then go on to the wetland system. You can plan that.

Mr. **Stangeland**. That's very interesting. Thank you.

Mr. **Nowak**. Thank you very much.

Mr. **DeMichele**. You are welcome.

Mr. **Nowak**. Thank you for the book, and we will have the opportunity to look through it in some detail and hopefully find a way to use it. If you have any further information you can give us as to the workings and the actual results in terms of what further benefits are showing up in the wetlands that are being used, we would appreciate it.

Mr. **DeMichele**. I will do that.

[Mr. De Michele's prepared statement appears on page 1402.]

Mr. **Nowak**. We will now turn to our next witness, Tom Donnelly, the Executive Vice President of the National Water Resources Association. Thank you for your patience, Mr. Donnelly.

TESTIMONY OF THOMAS F. DONNELLY, EXECUTIVE VICE PRESIDENT, NATIONAL WATER RESOURCES ASSOCIATION, ARLINGTON, VA

Mr. **Donnelly**. Thank you, Mr. Chairman. In the interest of time, I will be brief.

I am Tom Donnelly, Executive Vice President of the National Water Resources Association. I appear before this Committee today to express the Association's concerns and interests in the management and preservation of our Nation's wetlands under Section 404 of the Clean Water Act.

NWRA is a nonprofit federation of State associations and individuals dedicated to the conservation, enhancement and efficient management of our Nation's most precious natural resource, water. President Bush has helped to focus attention on the loss of a large percentage of our country's wetlands resources by making a no net loss policy the cornerstone of his national environmental agenda. We support the President's initiatives and the recommendations of the National Wetlands Policy Forum on which they are based.

We also support this Committee's dedication to a national policy which balances the protection of this vital resource with the need for responsible development in support of our Nation's economic goals, as well.

In general, we believe the environmental statutes of this Nation represent a sound, meaningful body of law. The administration of these laws, however, at times reflects individual ideologies or agency bias, total disregard for the needs of people and a lack of definition and purpose. Such is oftentimes the case with the administration of Section 404 of the Clean Water Act.

As this Committee addresses the various issues relating to a national policy for the protection of our wetland resources, we respectfully request that the Committee consider our concerns and recommendations for a more balanced policy that is responsive to the present and future needs of all Americans.

I have provided a summary of our concerns and recommendations for the Committee's review. They address such issues as the decision making process, local and State responsibilities, water rights, Section 404 guidelines, and Section 404(c) veto.

Many of our members are public officials like yourselves. They are charged with the public trust responsibility to provide their constituents and future generations with an adequate and quality supply of water. To do so requires planning. Tomorrow's supply problems must be addressed today.

Their public trust responsibility is every bit as important as those of Federal and State officials charged with the protection of our natural environment. Their problems and concerns must be addressed in a timely and responsible manner and not summarily dismissed as secondary in importance to environmental interests and concerns.

By now, I am sure the Committee is familiar with the proposed Two Forks Project in Denver. Whether you are a proponent or opponent or have no opinion concerning this project, you must agree that a Federal decision making process that has taken almost ten years and cost the taxpayers over $45 million to arrive at a veto decision is unquestionably flawed.

As this Committee and Congress address the overall issue of wetlands protection, we urge you to ensure that the administration of Section 404 also reflects a balanced approach to wetlands protection, and the present and future needs the citizens of all regions in this country.

In summary, I want to assure the Committee that we as an organization want to be part of the solution to the problem, and not the problem. Therefore, we stand committed to provide whatever support the Committee deems necessary in an effort to better manage and protect our Nation's wetlands.

We have a tremendous knowledge and resource base within our association. In California alone, our State association has a wetlands task force which is assisting the State in developing a comprehensive wetlands protection policy. It consists of biologists, engineers, water supply experts, working closely with the State and with other organizations, including environmental groups throughout the state, to ensure that California's wetlands law is balanced.

Mr. Chairman, that concludes my testimony. I want to thank the Committee for allowing us the opportunity to present our views. I will be happy to answer any questions.

Mr. **Nowak**. Mr. Donnelly, you mention in parts of your testimony that you feel the State government should be delegated more of the permitting responsibilities. We have looked at that question, trying to determine why more states have not accepted the responsibility as they did under the grant program, for building treatment plants throughout the country. One state as you know, is Michigan, they have taken that responsibility over.

What in your view would encourage more states to do so and should they?

Mr. **Donnelly**. I think the various states' ability to adequately manage their wetlands resources varies greatly from state to state. Some states do an outstanding job right now. I think Michigan probably has more strict regulations than does the Federal Government.

There are several states that have not addressed the problem, and are depending on the Federal Government. For those states that do not have the resources or the funding to be able to do it, maybe what we need to look at is some sort of Federal Assistance, either technical or monetary, to assist them in developing programs and expertise to in fact do better than an adequate job of managing their resources.

Mr. **Nowak**. Mr. Stangeland?

Mr. **Stangeland**. Thank you, Mr. Chairman.

Mr. Donnelly, I see you are recommending that we ought to eliminate the veto authority of EPA. On the surface I think I tend to agree with you that we have too many hoops to jump through. On the other hand, when we make some changes, we want to make sure that the permitting authority is not given carte blanche authority to do whatever they are responsible for doing.

I see your consultative recommendations may get to the heart of that matter to where the Corps is or will be completely responsible in their permitting authorization.

Mr. **Donnelly**. Please don't misunderstand that we don't believe there should be some oversight. But we do not believe one individual in Government, a non-elected official, exercise that authority.

Mr. **Stangeland**. I gather there is consultation and oversight on the permitting process. But it gets down to one responsible head, as opposed to two or three responsible heads.

Mr. **Donnelly**. Yes, sir.

Mr. **Stangeland**. I have no further questions, Mr. Chairman.

Mr. **Nowak**. Thank you very much, Mr. Donnelly.

If we develop other questions from your testimony, we will give you a call and submit them for the record in writing. Thank you again for your patience today.

[Mr. Donnelly's prepared statement appears on page 1409.]

Mr. **Nowak**. We would now like to bring before the committee Robert Hearon, who is the Environmental and Production Services Manager of IMC Fertilizers.

Mr. Hearon?

TESTIMONY OF ROBERT HEARON, ENVIRONMENTAL AND PRODUCTION SERVICES MANAGER, IMC FERTILIZER, INC., BARTOW, FL

Mr. **Hearon**. Good afternoon, Mr. Chairman and members of the Subcommittee.

My name is Bob Hearon, pronounced just like the bird. I appear this afternoon on behalf of the Fertilizer Institute which is our industry's national association of which we are a member, and the Florida phosphate industry. On their behalf, I thank you and the members of the Subcommittee for the privilege of testifying this afternoon on the important issue of preserving and protecting our nation's wetlands.

I would like to discuss briefly with you what we do produce, what phosphate is. I would like to brag a little bit about the industry in terms of the wetland mitigation and our record in that area, and I would like to talk a little bit about the current status of the regulations and the recent MOA with the EPA.

The Florida phosphate industry mines and reclaims many Florida wetlands to recover an important non-renewable natural resources, phosphate rock. Before I discuss the specifics of that, in terms of how we do it, I would like to talk about fertilizer for a second.

Phosphate, like all other fertilizers, is a plant nutrient. There is no substitute. Phosphate is a nutrient that can best be compared to a vitamin. Just as the human body needs a continual supply of vitamins through food and liquid intake to support life, plants must receive adequate levels of nutrients. The plants I am referring to are harvestable crops, such as corn, wheat, animal feedgrains, peanuts, fruits, vegetables and many others that are the pillars of America's and ultimately the world's food supply.

About 80 percent of the world's food supply is produced on only 10 percent of the world's surface. This extraordinary State of affairs is possibly only because agricultural research, a high degree of mechanization, and the development and widespread use of commercial fertilizers.

What you may not know is that 80 percent of this Nation's phosphate fertilizers come from a small four-county area in central Florida that represents about two percent of that state's surface acres. It has been that way since the turn of the century.

That's basically what phosphate is and does. I would like to refer you to a series of photographs that I have included in the green folder that was handed to you, to illustrate a few points I would like to make as I go through a few comments.

The first photo in the stack is an aerial photograph of a typical wetland area in central Florida prior to the mining process. The point I want to make with this photo is that all of the wetlands that we permit and mine in central Florida are not pristine cypress wetlands as some people envision. A lot of them have already been altered for agricultural use or other things such as mosquito control for the past 50 to 100 years. Many have already undergone considerable alteration.

In the next photograph, you see what we do. That is a picture of a large walking dragline in central Florida. What we do is cut and stack the overlying sands or what we call overburden, down to a depth of 10 to 80 feet and set that material behind us in the mine cut. We extract the ore from a sedimentary or even layer below that, and pump it hydraulically to a plant which can be several miles away, where the rock is separated from the clay and the sand that is with the ore.

Once the mining process moves on, we either reshape the overburden materials, the sands that are left behind or in some cases pump the sand tailings back from the plant to fill the void back to or close to the original grade. At that point we take the organic muck materials, assuming we are constructing a wetland, that is, and we redistribute muck that has either been stockpiled from a wetland that was disturbed or has been brought in from another donor site anywhere from two to 12 inches over the surface of the ground.

The particular machine in that picture is a small tractor that is actually punching the holes in which the wetland plants are to be planted. The wheel on the back of the tractor is spacing and making the holes for hand planting of herbaceous wetland plants.

That particular project is currently underway. It is about a 95-acre project, and we are planting in excess of a quarter of a million plants in that one project.

The next photograph takes you back a few years into some of the first work that was done in this field by the phosphate industry starting in 1979. As you notice from the picture, from the sign in the picture, one of the first projects we did in the industry was a cooperative venture with the United States Fish and Wildlife Service and the local Florida Game and Freshwater Fish Commission. It was a three-year study, commissioned by the United States Fish and Wildlife Service, and we learned a lot of important details from that site.

You can again keep that in mind, what that site looks like, that was in 1979 when it was initially planted.

The next photograph consists of an example of a slightly different type of wetland system in which we have left an open lake in the center of the wetland with a wetland fringe. What you see is mostly low vegetation, because all of the trees that have been planted in some of these projects have yet to have the time to grow.

Wetland mitigation is a relatively new technology throughout the country, and in phosphate, although phosphate had a very early start in it. The oldest projects we have in the industry are approximately ten years old.

Before that, it was illegal for us to reclaim a wetland by county ordinance. It had to be high or dry, or over six feet deep. That's the reason we haven't done it before now.

The next two slides are examples of wildlife utilization. This shows how rapidly some of the wildlife moves back into our reclaimed systems, the habitat is there, the habitat is widely used. The second is one of a great blue heron standing in the middle of one of our projects, with an ambitious appetite that is a little bit larger than his bill, I am afraid. He is holding about a pound and a half bluegill that I don't believe he is going to get down.

The last photograph in that series is simply a picture of that 1979 research site ten years later, showing that the trees are in excess of 20 feet tall, the canopy coverage is beginning to cover over the normal wetland understory of a hardwood system that is developing very nicely, and you see the high water marks on the trees. You can see the hydroperiod is there, the annual fluctuation of the water is there, it is a very healthy, self-sustaining wetland system.

Mr. Chairman, the Florida phosphate fertilizer industry is the world leader in mining and reclaiming wetlands, or in reclaiming wetlands from scratch. To date, the Florida phosphate industry has reclaimed more than 4,700 acres of mined wetlands at an average cost of between $2,500 and $3,200 per acre.

Concerning the no net loss policy, for every acre mined by the Florida phosphate industry, at least one acre is reclaimed. In other words, one-to-one mitigation is a minimum. In most cases, the industry reclaims at a two-to-one and even three-to-one ratio, three acres of wetlands reclaimed for every one acre mined. That results in a net increase of wetlands, and this has been a continuing process in the industry.

The Florida phosphate industry has by far reclaimed more wetlands than any other industry, land developing organization or environmental group combined in the United States. Only the United States Fish and Wildlife Service and Ducks Unlimited, with their efforts in water management in Canada and other areas, can claim more wetted acres. But there is strictly a water management technique.

The Florida phosphate industry has a proven record of mitigation, earning national reclamation awards from such recognized groups as the National Wildlife Federation, both in 1985 and 1987, the United States Fish and Wildlife Service in 1984 and 1985, the National Association of Land Reclamationists as far back as 1977, and the Florida Wildlife Federation in 1985.

The Florida phosphate industry also has received recognition and support from many other groups, including the United States Department of Interior, the Florida Department of Natural Resources, the Florida Audubon Society, the Florida Wildlife Federation, Florida Ducks Unlimited that we support wholeheartedly, the Florida State legislature, the Secretary of State, George Firestone and Congressman Andy Ireland, and several county commissioners.

Briefly, I will discuss the Florida phosphate industry's position on no net loss, and the recently published Memorandum of Agreement between the Army Corps of Engineers and the Environmental Protection Agency.

As you know, in his first term as President of the United States, George Bush has placed wetland protection on the National agenda and has endorsed a National goal of no net loss of wetlands. We concur with that goal. Also, members of the United States Congress have introduced a variety of legislation initiatives for achieving increased protection and preservation of wetlands.

The Florida phosphate industry has lived with self-imposed and Florida State guidelines requiring no net loss for more than 20 years, resulting as I said before in a net gain of wetlands.

Our industry is encouraged that efforts are being made to define no net loss nationally. The MOA, while not specifically defining no net loss, assures cooperation between the two major administering agencies.

Our reservation concerning the MOA is that with increased participation of the Environmental Protection Agency, another layer of bureaucracy will be added to an already multi-layered permit process that takes 9 to 15 months to complete. That's not a horror story, those are average numbers. My company currently has over 48 active dredge and fill permits. Those are average numbers for permit application and issuance.

Successful reclamation, we feel, is best achieved under a consolidated permit process. It is our hope that the MOA will not result in slowing down an already complex permitting process, but that is doubtful, judging from EPA's involvement and other permit processes.

What we had before the MOA basically is the Corps of Engineers as a lead agency in Federal dredge and fill permitting. For many years, the EPA and the United States Fish and Wildlife Service have had commenting rights for every permit that the Corps issued. The EPA and the United States Fish and Wildlife Service would frequently send biologists on site to inspect the sites. They would comment to the agency. But the difference between yesterday and today is that that was basically what they had—common authority.

The Corps still basically called the shots after we did our best to meet and negotiate and resolve all of the issues involved, if they could not be resolved, the Corp at least said yes or no. I believe that was a good and workable system. Both the EPA and the United States Fish and Wildlife Service had the right to request review at a higher level of review within the Corps, if they really objected to the issuance of that permit. But it was not done very often.

Under the MOA, the EPA has almost a direct involvement in the permitting process, and in fact are today sitting in offices in Atlanta dictating specific conditions to be attached to Corps permits. The Corps takes those specific conditions and staples them to the back of the Corps permit. If we object to them, the Corps says they have no control over that.

That is, I feel, a step backwards in the permit process. I believe that the Corps has biological and other good expertise in the field. They have local offices in central Florida. They have a lot of experience in that area and I think they were doing a very good job. I can't say that that's what I have seen in the few permits we have processed since the EPA has gotten involved.

There are people who have never reclaimed an acre of land, who have never built a wetland, and I question whether they have ever walked in a wetland, they are sitting in Atlanta trying to dictate the height of the trees we plant, the density at which we plant and many other criteria that are just totally unreasonable in terms of normal performance criteria.

They do this without any consideration of the fact that it could easily double the costs of our land reclamation in Florida.

I believe that if we can maintain a lead agency, or go back to a lead agency concept, or system, that it would benefit both industry and the public, and agriculture as a whole.

I am submitting copies of this entire packet for your information. I appreciate the opportunity to talk to you this afternoon.

I want to back up for one second to this first photograph, as an example of what I was relating earlier. These are altered wetlands, there are actually about four small wetland systems in that picture, a little bayhead at the bottom of the picture, a couple of agricultural ditches, as you can see from their angular shape, a small cattle watering pond in the north center of the picture and a ditch that runs along the side of the highway at the north side of the pasture.

The area on the right is a citrus grove. All of those systems I just related to you were claimed as jurisdictional by the Corps of Engineers, and that permit took a little over nine months for issuance, even though right up front we agreed to wetland mitigation in excess of two-to-one for that project.

The reason those projects take that amount of time, in my opinion, is not because of the controversial nature of the permits. It is not because of the problems with the mitigation, it is because the Corps permitting agencies are swamped. Basically they are covered up with permits.

That has been the result of exerting their jurisdiction down to smaller and smaller parcels, little one-acre or two-acre projects prior to 1986 I believe it was, when the Corps was sued by several conservation groups, they could permit projects of this size with what they called a nationwide permit. I think the nationwide concept was a good concept.

Today, virtually any wetland system, if it is not big enough to trigger the standard permit criteria, they tend to pull three or four of them together until it gets big enough to trigger that. So every permit you deal with is a standard form permit, and standard form permits require three disturbance wetland vegetation transactions, they require all types of input and data in hydrology and elevations and everything—it is a very complex process.

If we add the EPA on top of that, it will get more and more impossible to do business. Certainty in the process is what we would like.

Thank you very much.

Mr. NOWAK. Thank you for your testimony. The submissions are very helpful as the Committee looks at those examples of what mitigation has provided, at least in your phosphate industry.

When you talk about the lengthy delays that you see as a possible growing problem because of the MOA, it is out there. I am wondering if those delays are because of the different due process that has been looked at by the different agencies that always had a role, and if you had any suggestions besides the obvious suggestion you made about the Corps having a leading role, how that could be condensed, either in time periods or when you had your submission, and we can take a realistic example.

How much was the change from what you submitted to what you agreed on nine months later? Were there substantial readjustments in it?

Mr. HEARON. Not a great deal in terms of the overall mitigation plan, and in terms—except for the things I mentioned, the size of the trees. If you go from $1.25 trees instead of 40 cent trees, and you are planting 1,200 to the acre, you can imagine what it does very rapidly to the expense. The delays in the permit process come from something called incompleteness. You send in a permit application, the agency has a specific time line in which they must review that application for completeness, and then get back to you saying that it is not complete, you need to provide this additional information.

Then you go out and gather up all the additional information, and you respond back with the submittal to the permitting agency. In most cases in the past, that was sufficient. You got to respond once to United States Fish and Wildlife Service comments, you responded once to EPA comments, the Corps sorted it out and played referee, and the permit was eventually issued.

Now what happens is that the EPA comes back and they say that is still not enough information, we have thought of some other questions for you. So they send you a second incompleteness response. You spend several more dollars and a lot of time, and you generate some more data, and you send that in to the EPA, and they will say "Well, we forgot one more thing." So all of the statutory time lines that look so neat in the statutes don't necessary work that way because of the concept of incompleteness.

It is not just in the Federal process, I will have to admit freely. We run into that in the State permitting process also. In central Florida, to permit a wetland system for mining, it requires a Federal Corps permit, a Department of Environmental Regulation Dredge and Fill permit, it requires a Southwest Florida Water Management District Works permit, and a local government or county permit.

All of those are fairly extensive permits to obtain. We don't need the EPA getting more and more involved in the Federal process on top of that pretty long ladder.

We do not plan any disturbance of any wetland on any shorter time line generally in the 15 to 18 months with any certainty of getting there now. You just have to plan that much further ahead, and in Florida it really is a problem, because every direction you turn there is a wetland, every square mile you pick in central Florida and throw a dart at it, you are probably going to hit 12 to 15 percent if not more of the isolated systems, small creek systems. Running power lines, running pipelines, anything we do requires permits. I have a house full of them.

Mr. **NOWAK**. At your location, how many acres have you mined for phosphate? How big is this?

Mr. **HEARON**. IMC Fertilizer has been in business in central Florida since 1907. We currently mine at a rate of about 2,000 acres a year. Our current production—I am speaking for my company now, not the industry—we currently have the production capacity of about half the industry, which is a little less than 20 million tons a year. IMC Fertilizer owns about 135,000 acres in four counties.

Mr. **NOWAK**. Are there any other uses that are being furthered after the process of mining takes place, in conversion to wetlands?

Mr. **HEARON**. Yes, sir. We have a corporate commitment to reclaim 30 percent of our lands to natural systems, and wetlands are not the only type of natural system, I think that was pointed out in some earlier testimony. Uplands can also be a very valuable resource. We are doing reclamation back to unique native systems such as sand pine scrubs, the gopher and tortoise habitat, home for the scrub jays and the short-tailed skinks and the Blue Indigo snakes, and things of that nature.

We are doing some reclamation back to pine flatwoods, the native Florida sawtail meadow sawgrass or wiregrass long leaf pine savannah things. We have started a whole industry in central Florida of nurseries trying to produce enough source for us to plant. My company currently purchases and plants over a half million trees a year, primarily in wetland systems, but to a large extent in upland systems as well.

We are required by State law to reclaim, of course, every acre that we mine and have been since 1975. Wetland reclamation is one type of reclamation that we do. We also put back some agriculture lands, some pastures. We are required by the Department of Natural Resources to put it back somewhat in the same blend it was before we mined it.

Mr. **Nowak**. That was my next question. As you move forward and take so many acres to mine, the redistribution of that into whatever is the land will be used for after that is submitted in total to different subdivisions you are working with, the uplands part and whatever you will use for reforestation, and agriculture.

Mr. **Hearon**. We have to submit at the start of any large mining block, by large I am talking about 15,000 to 20,000 acres—we have to submit to the Department of Natural Resources a conceptual reclamation plan, which lays out according to flux code vegetation coverage types what the whole mosaic is going to look like at the end of mining and reclamation.

Then as we go through smaller blocks of that 20-acre parcel we have to set up what are called logical reclamation units, which provide more and more detail of exactly how that overall master plan is going to be carried out. It considers hydrology, it considers flux code vegetation, watersheds.

Mr. **Nowak**. It ends up as a mixed-use property, after your mining.

Mr. **Hearon**. Yes, sir and in consideration of local government's needs also for their tax base and growth, and all that.

One of the points I might mention briefly in terms of mitigation, we have heard ratios talked about before, one-to-one, two-to-one, three-to-one—I might point out that you can't just arbitrarily set that, though, in any particular area. For a wetland to exist, you don't just go out and scrape out a depression and plant plants. The hydrology and engineering have to be there first.

If you are dealing with a certain size wetland, and a certain size watershed that is dependent upon that watershed for its existence, and not on groundwater tables, you can't create any larger wetland in a particular area than that watershed will sustain. You cannot just say your are going to put back 20 where there were five before. It has to be a designed system.

Mr. **Nowak**. I understand that the State of Florida is showing right now a plan to buy and restore more than 100,000 acres of freshwater marsh land that was drained and converted into orange groves and other types of farms.

Mr. **Hearon**. That would be restoration, that's part of the very south portion, that's an area that was used extensively for agriculture. I believe that they are addressing the reconversion of a number of those areas back into natural sawgrass marshes.

A lot of the lands in Florida have purchased in the last few years through what they call the Coral Fund, by the State, which is the Conservation and Recreational Land Fund. That fund comes from phosphate severance taxes.

The State has spent over $30 million in actually obtaining and putting into State ownership highly desirable plants.

Mr. **Nowak**. How much of your phosphate is shipped overseas through Tampa, sold overseas? How much is sold in the United States?

Mr. **Hearon**. We export—and I am not sure of the industry figure off the top of my head, but it is somewhere in the neighborhood of 30 to 40 percent, potentially going overseas. What goes out of the port does not necessarily go for export. Some of it goes up the Mississippi and some of it is for export.

But it is one or the larger commodities balancing our balance of trade somewhat for all of the Datsuns and Toyotas that come back into the Port of Tampa. We sell a lot to Japan.

Mr. **NOWAK**. How large is Cargill?

Mr. **HEARON**. Cargill is a fairly—I am over my head. I am not really familiar with their total. I am familiar with the name and the association, but I don't really know the numbers.

Mr. **NOWAK**. How about Gardinier?

Mr. **HEARON**. It was Gardinier and Cargill that came in. I know Cargill as a company is huge. But I really don't know what their Florida investment is, other than the one——

Mr. **NOWAK**. And the Port of Tampa, do you ship most of your product by rail car, or by truck?

Mr. **HEARON**. Most of it goes from central Florida to the port by rail. We do truck some of it.

Mr. **NOWAK**. And it is processed there, into different product lines?

Mr. **HEARON**. The majority of the processing takes place in central Florida. There are a number of large chemical complexes, IMC owns the largest one of its type in the world, practically. It is at New Wales. We take the rock and convert it to the fertilizers and animal feed ingredients in Polk County. Then the mixed fertilizers are shipped. Some of that goes by truck, although most of it goes out by rail to the port. We have a port terminal of our own.

Mr. **NOWAK**. Thank you.

Mr. Stangeland.

Mr. **STANGELAND**. Thank you, Mr. Chairman.

That's an impressive statement and an impressive set of photographs. I am just curious, this one is not really clear, and I am wondering——

Mr. **HEARON**. I am sorry. Those were last minute copies off a slide that we blew up.

Mr. **STANGELAND**. What I want to know is how much of this is actual wetland, or is it just the area we see up here?

Mr. **HEARON**. That's mostly the wooded areas. The dark wood in some of the lower right hand corner is pines, but what I am referring to is the ditches and the little cattle watering pond. It was a total of less than seven acres.

Mr. **STANGELAND**. There would not be a lot of water on the surface here.

Mr. **HEARON**. No.

Mr. **STANGELAND**. When you are through, you have a really pretty high-grade wetland area?

Mr. **HEARON**. Yes, sir. This winter, we gave tours to 12 Florida Audubon chapters from as far as 200 miles away, they came to look at the wildlife utilization of our reclaimed land, and our active water recirculation systems that tend to draw wildlife in central Florida, birds in particular. We frequently do that. It has the highest concentration of bird life and many other kinds of wildlife in the state.

Mr. **STANGELAND**. What percentage of your permit applications to mine are denied?

Mr. **Hearon**. Very, very few. I think I have had one denied over the years. I have been with the company 23 years, but dredge and fill permitting only goes back to 1975.

Mr. **Stangeland**. How many permit applications are modified?

Mr. **Hearon**. Practically every one of them.

Mr. **Stangeland**. To what extent?

Mr. **Hearon**. Not a great deal of it is highly significant—elevations, planting species, types, success criteria.

Mr. **Stangeland**. The reclamation part is modified, but not necessarily how you go in and mine.

Mr. **Hearon**. No, sir, it is not how we mine. We never argue that much about jurisdictional limits, either, because we figure if we are going to mine it anyway it doesn't matter whether it is 22 acres or 27 acres. Jurisdictional limits on that boundary are quite different to a developer than they are to us.

Mr. **Stangeland**. What is the average mitigation requirement, one-to-one, two-to-one, three-to-one, five-to-one?

Mr. **Hearon**. On an average, I would say that normally require one-to-one, or one and a half-to-one. We sometimes volunteer more than that. We try to maintain a very good working relationship with the agencies and a spirit of cooperation. If we can, without it costing an arm and a leg, we do whatever we can.

Mr. **Stangeland**. Is it true that these phosphate mines, after reclamation, become pretty good large-mouth bass fisheries?

Mr. **Hearon**. Yes, sir. I can testify to that personally. I would be glad to show you if you ever get to Polk County.

Mr. **Stangeland**. I think I may be ready to take you up on that before the ice goes off the lakes up in Minnesota.

I have no further questions. I really empathize with you as far as the permitting processing is concerned. When you go through that amount of time, you must be incurring quite a large cost. It seems to me we should be able to simplify that. It would be different if you were being denied permits on a regular basis to mine certain areas, and if the permit was redesigned substantially. I cannot expect that they should have a document in there somewhere—I am sure your permits are not all perfect as written, and you have to have certain requirements.

Mr. **Hearon**. There was pretty extensive testimony earlier about time, about the cost of time. I believe that is very real with us, and that is our major concern. If you have an overall master mining reclamation plan, and you have five-year plans and annual plans and profit plans—we are moving 18 draglines around on a very large scale operation. You can understand what the pipelines and powerlines and pumps and return water systems and everything else—it is a complex process.

If you start off in a direction anticipating that you are going to put every effort into getting a permit in the required amount of time, and you end up just being delayed and delayed and delayed on fairly small details, you can end up with a large operation coming to a screeching halt, or taking a 90-degree turn, and moving into another section. It can get very, very expensive, even though you are not denied the permit, if it takes two years to get it, you may as well have been denied.

We have gone past some areas where the permit was no longer—you can't back up.

Mr. **Stangeland**. Where is central Florida geographically, north of Okeechobee, south of Orlando?

Mr. **Hearon**. Just about dead center. We are 30 miles from Disney World. We are south of I-4, if you take that Daytona to Tampa corridor, I-4, we are south central of that.

Mr. **Stangeland**. I have no further questions. I want to thank you for your testimony.

Mr. **Hearon**. Thank you very much for your patience in waiting for the end of the line.

Mr. **Nowak**. We will have an opportunity, perhaps to go over your testimony again, and perhaps even talk with some of the people in the planning process, to see what further light they can shed as to possible problems that you mentioned, and time frame. Certainly we want to get that coordinated, so that it makes sense not only for your district, but for the rest of the districts throughout the country, if this thing is going to work. Maybe we can streamline this Section 404 program.

Mr. **Hearon**. Historically, the closer your permitter is to you, the better the whole system works. If you can call a guy in Tampa and say "Meet me out there, and let's look this over," and if you have a question, that's one thing. If you have to come from Atlanta or from Jacksonville, that's a little different. It is still workable. It's geographical. The communications get more difficult, the interactions and the education and everything else.

Of course, the turnover in EPA is notorious also, and you end up retraining and retraining, and the further away the school is, the more difficult it is to work in the system.

Mr. **Nowak**. How much of the phosphate is being shipped out of Jacksonville? Has that increased?

Mr. **Hearon**. Occidental out of Lake City is the only company that uses the Jacksonville port. I am not sure exactly what their annual production is, or how much of it is going out of that port.

Mr. **Nowak**. The only other thing I can think, looking at this bluegill the heron has——

Mr. **Hearon**. Healthy, isn't it?

Mr. **Nowak**. I don't know if that's not a bass. That's an awfully big bluegill. In any event, I bet you he did get that down.

Mr. **Hearon**. I stood there and watched him for 20 minutes. I finally got tired of waiting and I left. He was still working on it when I left.

Mr. **Nowak**. Thank you again, your testimony is very much appreciated.

[Mr. Hearon's prepared statement appears on page 1458.]

[Supporting documents submitted by Mr. Hearon to the Subcommittee are retained in the Subcommittee file.]

Mr. **Nowak**. The Subcommittee will now adjourn until we schedule a new hearing.

Thank you.

[Whereupon, at 4:48 p.m., the subcommittee was adjourned, to reconvene at the call of the Chair.]

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STATEMENT OF

EUGENE D. DE MICHELE, P.E., CAE

DIRECTOR OF TECHNICAL SERVICES

WATER POLLUTION CONTROL FEDERATION

BEFORE THE

SUBCOMMITTEE ON WATER RESOURCES

HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE

HEARING ON WETLANDS ISSUES

March 13, 1990

Good morning. My name is Gene De Michele, and I am Director of Technical Services for the Water Pollution Control Federation (WPCF), a non-profit educational and technical organization devoted to leadership and guidance in the preservation and enhancement of water quality. Founded in 1928, the Federation's 40,000 members include civil and environmental engineers, wastewater treatment plant operators and managers, scientists, and others working in state and local government, federal agencies, industry, academia, and private practice. It is on behalf of our members that I come before you today.

I would like to address an area of the current wetlands debate which has been overlooked generally by policymakers and the national media. Wetlands, as most people know, provide habitat for countless species of birds, wildlife, and plants. They also serve an important economic function as a nursery for fish and other valuable aquatic commodities. What very few people realize is the critical role wetlands play in the treatment of wastewater.

Over the past three years, WPCF has developed a technical manual which describes the use of wetlands and other natural systems such as subsurface and land treatment systems, stabilization ponds, and aquatic systems with floating plants, for wastewater treatment. It is on this manual, Natural Systems for Wastewater Treatment, that my testimony is based.

After passage of the Clean Water Act in 1972, there was a boom in the wastewater treatment plant construction business as federal money flowed to the states in unprecedented amounts. WPCF was active in publishing technical manuals describing the design and operation of these plants. Although discussed in our manuals, there was little interest in using natural systems for water pollution control at that time. Engineers and regulatory officials were uncomfortable with this concept due to a lack of information and unfamiliarity with the technical process.

But the conventional wisdom on wastewater treatment systems has changed since the 1970's. As a result of reduced federal funding, a much greater body of scientific information, and increased awareness of the value of our natural environment, treatment plants which depend strongly on wetlands and other natural systems are now being considered by design engineers.

Wetlands, which I define as land upon which the water surface is at or above the ground surface for a given period each year, are now being used for wastewater treatment. These can be either naturally-occurring or constructed for the specific purpose of wastewater treatment. Natural wetlands include swamps and marshes. In many coastal plain areas of the southeast and in the poorly drained marshes of the north, natural wetlands have been used historically as receiving waters for wastewater discharges. In two areas of the country that have been inventoried, EPA Region IV and V, 326 discharges from wetlands to receiving waters such as streams and rivers have been documented. Several natural wetlands modified for wastewater treatment have been studied extensively. Results are positive and have encouraged the construction of man-made wetland systems for wastewater management. Such constructed wetlands have found popularity in Europe, South Africa, and Great Britain because they can provide effective and reliable secondary or advanced wastewater treatment.

The use of natural systems offers considerable savings in operation and maintenance costs when compared to conventional treatment processes producing similar effluent quality. In some cases, natural systems can produce effluent quality comparable with advanced waste treatment at substantially reduced costs.

Wetlands typically require fewer operational personnel, consume less energy, and produce less sludge than conventional systems. Where sufficient and suitable land is available, wetlands often will be the most cost-effective option for both construction and operation. As such, they are usually better suited for small communities and rural areas.

Of the natural systems described in our manual, wetlands and aquatic systems with floating plants may hold the most promise for wide-spread use. They offer treatment of a continuous flow of wastewater, and can be operated year-round, depending on climate and treatment objectives. The key to their success lies in the vegetation, which absorbs certain wastewater constituents. Their root systems also support the growth of smaller organisms which provide very good wastewater treatment.

Wetlands designed for wastewater treatment offer many of the same environmental benefits as conventional wetlands. They provide a home for numerous species of wildlife, birds, and plants. A site in California has become a favorite place for bird-watching.

The use of natural and constructed wetlands for wastewater treatment is regulated by both federal and state laws and, in some instances, by local ordinances. Under the Clean Water Act, for example, many natural wetlands cannot be used for the discharge of pollutants. By law, a minimum of secondary treatment must be provided prior to any discharge to natural wetlands. Section 402 of the Clean Water Act requires a discharger to obtain a National Pollution Discharge Elimination System permit for any point-source discharge. Because most of these laws were written before the specific strengths of wetlands technology was understood, the existing rules for wetlands protection may conflict with permitting the potentially beneficial aspects of wastewater management in these systems.

Many states are currently taking an active interest in evaluating the usefulness of wetland alternatives in meeting their pollution control needs. These states include Louisiana, Texas, and Mississippi. One state, Florida, has even developed a detailed rule for permitting wastewater-to-wetlands projects, thus providing incentive for restoring drained wetlands for their use in wastewater recycling.

It should be noted that not all wetlands can be used for wastewater treatment. Factors such as type and size of the wetland, topography, and type of vegetation are all very important when determining the suitability of a wetland for wastewater management. If the wetland discharges into groundwater, an entirely new and different set of criteria come into play.

In conclusion, natural, restored, and artificial wetlands offer a significant opportunity to provide high quality wastewater treatment at low cost under appropriate conditions. This use of wetlands should be encouraged by any federal wetlands policy. The Water Pollution Control Federation would be pleased to offer technical assistance to Congress in such an effort. We have provided the Subcommittee staff with a copy of our technical manual, and I would be happy to answer any questions that the Subcommittee might have. Thank you for the opportunity to testify.

NWRA

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STATEMENT

of

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Executive Vice President

National Water Resources Association

before the

Water Resources Subcommittee
Public Works and Transportation Committee
U.S. House of Representatives

on

ISSUES RELATING TO SECTION 404 OF THE CLEAN WATER ACT AND WETLANDS PROTECTION

March 13, 1990

Mr. Chairman and Members of the Committee:

I am Thomas F. Donnelly, Executive Vice President of the National Water Resources Association I appear before this Committee today to express the Association's concerns and interests in the management and preservation of our Nation's wetlands under Section 404 of the Clean Water Act.

The National Water Resources Association (NWRA) is a nonprofit federation of state associations and individuals dedicated to the conservation, enhancement, and efficient management of our Nation's most precious natural resource, WATER. The NWRA is the oldest and most active national association concerned with water resources policy and development. Its strength is a reflection of the tremendous "grassroots" participation it has generated on virtually every national issue affecting western water conservation, management, and development.

President Bush has helped focus public attention on the loss of a large percentage of our country's wetland resources by making a "no net loss" policy the cornerstone of his environmental agenda. We support the President's initiatives and the recommendations of the National Wetlands Policy Forum, on which they are based. We also support this Committee's dedication to a national policy which balances the protection of this vital resource with the need for responsible development in support of our Nation's economic goals.

In general, the environmental statutes of this Nation represent a sound and meaningful body of law. The administration of these laws, however, at times reflects individual ideologies or agency bias, total disregard for the needs of people and a lack of definition and purpose. Such is oftentimes the case with administration of Section 404 of the Clean Water Act.

As this Committee addresses the various issues relating to a national policy for the protection of our wetland resources, we respectfully request that the Committee consider our concerns and recommendations for a more balanced policy that is responsive to the present and future needs of all Americans.

CONCERNS AND RECOMMENDATIONS
OF THE
NATIONAL WATER RESOURCES ASSOCIATION

[Local Responsibility] It is particularly important that Congress and the Administration recognize that Section 404 of the Clean Water Act frequently affects local matters that are best determined by state and local governments; and that decisions by such governments on those matters should be controlling unless significant issues of overriding national interest are involved.

[Decision Authority] The decision-making authority for issuing Section 404 permits should logically reside within the permitting agency, the Corps of Engineers. The decision process should carefully limit delay of important water resource projects by consulted agencies through the interagency review process. When the permitting agency has sufficient information on which to base a decision, it must be free to make its decision; free of any administrative veto by other federal agencies whose proper role is consultative. In this regard, the Executive Branch should make clear to the Administrator of EPA that the Section 404(b)(1) guidelines that he is required to develop shall not have the force of regulatory criteria, but shall be advisory guidance to the Secretary of the Army in carrying out his statutory duty to administer the Section 404 permit program.

Recent court decisions have, however, significantly expanded EPA's ability to veto Corps of Engineers approval of Section 404 permit applications by allowing EPA to determine matters over which it has little or no expertise, such as project alternatives, feasibility and water dependency. Alternatively, the Corps does have recognized experience and expertise in these matters. Restoring these determinations to Corps, rather than EPA, jurisdiction would provide a more accurate and effective Section 404 balancing process and would facilitate program efficiency.

[State Water Law] In accordance with the expressed intent of Congress, under no circumstance should the Section 404 permit process be used by any federal agency to override the primacy of states in matters regarding the allocation of water quantities within their respective jurisdiction. An amendment to Section 404 is needed to clearly provide that neither the Corps of Engineers nor EPA have authority to prevent or restrict consumptive use of water or water depletions authorized under state law.

[General Permits] The Section 404 permit program has resulted in needless delay and expense to state, regional and local agencies in the development of vital water resource projects at a time when the federal government is urging the states and their political subdivisions to undertake greater responsibility for meeting the needs of their citizens. Both legislative and regulatory actions are needed to remedy this situation.

In the legislative area, action is needed to provide for meaningful transfer of permit authority to the individual states through the issuance of state general permits, rather than "puppet" transfers which merely add to the burden on state regulatory agencies and result in unnecessary duplication and delay in permit processing.

The NWRA supports all efforts, both legislative and regulatory, which will reduce uncertainty and delay in the permit process; give the states more responsibility together with real authority; clearly establish the primacy of the states over water allocation and administration; expand the use of general permits; and clarify the scope of the permit program.

[Guidelines] Recent 404 implementation problems have indicated additional need for legislative corrections of the 404 permitting process, including clarification on:

1. Comment Procedure - All federal agencies (EPA, FWS) should be required to coordinate their comments through the Corps. The comments should be organized clearly to state the concern, the potential impact, and the expected nature of a response to the comment. Such comments should be accumulated by the Corps and provided to the applicant in a common format. In addition, commenting agencies must be held accountable for their comments. Specifically, if an applicant has adequately responded to agency comments, the agency should be limited in its ability to raise new issues in a new set of comments. The intent is to end the time-consuming, incremental nature of the current procedure.
2. Mitigation - EPA and FWS currently have overly broad discretion in determining the adequacy of mitigation particularly as it relates to habitat equivalency. That discretion results in regional and project-by-project inequities due to the lack of specific guidelines. Projects which are not "liked" by staff may end up with mitigation ratios of 7:1. However, 1:1 may be allowed in other cases. Some basic guidelines should be established and project justification be required. EPA and FWS should establish guidelines which allow "premitigation." Such a program would allow an application anticipating an impact to demonstrate or actually

initiate mitigation activity and receive "credit" when determining the adequacy of mitigation for the selected project. An applicant assured of receiving some credit may be willing to initiate mitigation activity (e.g., habitat improvement) prior to or during the EIR/EIS process. The Corps should give appropriate consideration to environmental and economic benefits of proposed activities requiring 404 permits. In developing permit conditions requiring appropriate mitigation, these beneficial impacts should be considered as offsetting adverse project impacts. In the past, no credit has been given to such benefits and only presumed adverse impacts have been considered.

3. Project Evaluation - EPA and FWS have little or no institutional expertise in evaluating engineering alternatives. However, EPA has been exercising veto authority over Corps' decisions to issue permits, based on EPA engineering, economic and other technical evaluations for which EPA has little institutional experience. Consequently, Congress should amend Section 404 to clarify that the Corps, after taking all limited factors into account, has final administrative authority over the issue of permits, particularly in matters over which the Corps has substantially greater technical and institutional expertise.

[SECTION 404(c) OF THE CLEAN WATER ACT] Section 404 of the Federal Water Pollution Control Act (Clean Water Act) established the permit process for the discharge of dredge or fill material into navigable waters. The Chief of Engineers, acting on behalf of the Secretary of the Army, is authorized to grant such permits for construction activities involving navigable waters of the United States. The authority is routinely delegated to the District Engineer. Section 404 provides the Corps of Engineers with the authority to conduct technical analyses to determine the impact of a proposed project, to determine mitigation measures based on those analyses with the advice of numerous federal agencies, including EPA, and to hold public hearings on the proposed project, before deciding to issue or deny the permit.

Section 404(c) of the Act provides a mechanism for the EPA Administrator to veto any 404 permit issued by the Corps of Engineers should he determine that issuance of a permit will have "an unacceptable, adverse effect on municipal water supplies, shellfish beds and fishery areas, wildlife and recreational areas." The veto process has been extended by EPA to include reviews of matters such as project alternatives, feasibility, water needs, and other technical areas for which it has little or no expertise. EPA can ignore the local project proponent's project purposes and redefine the project purpose. This is a major extension of EPA authority beyond that usually contemplated as a limited veto power focused on the unacceptable water quality effects of dredging. The EPA process should be based on technical expertise, related mitigation requirements, and interagency coordination, with full consideration of the impacts on the health, safety and welfare of the users of the project. By the time the 404 permit reaches the Administrator's desk, the local project proponent and the Corps of Engineers will have completed preliminary planning and a detailed environmental impact statement on the project. The local proponent may have agreed to expensive mitigation measures required by the Corps of Engineers, in consultation with other federal agencies, including the Regional Office of EPA. The ability of the EPA Administrator to veto a permit following diligent pursuit of the permit process by the Corps of Engineers, the project sponsor, and other agencies is contrary to the system of documentation, analyses, interagency coordination, and public input provided for in Section 404 and regulations adopted to implement Section 404. The 404(c) process allows one individual to override the Corps' considered decision regarding a locally sponsored water project.

In order to allow the 404 permit process to proceed in a reasonable manner, and to reinforce the role of the Corps of Engineers as a decision-making agency based on technical analyses, public involvement, and interagency coordination, Section 404(c) of the Clean Water Act should be amended to preclude the Administrator from vetoing permits issued by the District Engineer. If the Administrator has continuing concerns about the permit proposed to be issued by the District Engineer, he should be able to inform the Secretary of the Army and request a sixty day period in which to work out his concerns with the District Engineer and the applicant prior to final approval of the permit by the District Engineer. The Congress should hold hearings to determine the most appropriate legislative and/or regulatory means of eliminating abuses of the 404(c) veto process by EPA.

[404(b)(1) GUIDELINES] Section 404(b)(1) of the federal Clean Water Act calls for the Environmental Protection Agency to develop guidelines to be used by the US Army Corps of Engineers in the evaluation of applications for Section 404 Dredge and Fill permits. The guidelines appear at 40 CFR Part 230. The guidelines establish four evaluative standards which prevent the Corps from authorizing a proposed project under specified conditions. The first of these standards is the alternatives analysis, under which the Corps determines whether there is a "practicable alternative" to the proposal which would cause less damage to the aquatic ecosystem without other significant environmental impacts. To be "practicable," an alternative must be cost-effective, technically feasible, and it must fulfill the "basic project purpose." Generally, if the Corps finds that such an alternative exists, the proposed project fails this first standard, and no permit can be issued.

A dispute exists between EPA and the Corps over the role of mitigation in the practicable alternatives analysis. The resulting interagency conflict complicates the process of securing a 404 permit. EPA maintains that the proposed project and any practicable alternatives must be compared in an unmitigated state. This approach leads EPA to oppose many proposed projects even when the impacts of the proposed project can be appropriately mitigated. The Corps, on the other hand, takes the position that opportunities to mitigate environmental impacts are an important part of every project, and that the comparison of the proposed project and alternatives must consider the appropriate mitigation opportunities. Under the Corps' approach, adding appropriate mitigation measures to the proposed project could, in theory, assure that no "less damaging practicable alternatives" exist. Given the Corps' permitting authority and EPA's claimed veto authority, the applicant is caught in the middle of this interagency dispute. Substantial efforts by both EPA and the Corps to resolve this dispute have been unsuccessful and demonstrate that further guidance from Congress will be necessary if a reasonable balance is to be achieved.

Defining the "basic project purpose" has been proven to be another unwieldy component of the alternatives analysis. This concept has proven to be both controversial and difficult to identify because: (a) it frequently tempts the federal agencies to substitute their judgment and policies for those of state or local officials (e.g., where the project is proposed by state or local government); (b) it frequently requires expertise or understanding beyond either the Corps' or EPA's experience (e.g., business or community planning); and (c) it can determine whether "practicable alternatives" exist (i.e., if the purpose is defined too broadly or too narrowly, one can assume that practicable alternatives exist or do not exist). The role of the federal agencies has never been clearly defined in this regard, especially with respect to projects proposed by state or local government to fulfill a variety of local and regional needs.

Many of our members are public officials like yourselves. They are charged with a public trust responsibility to provide their constituents and future generations with an adequate and quality supply of water. To do so requires planning, tomorrow's supply problems must be addressed today. Their public trust responsibility is every bit as important as those of federal and state officials charged with the protection of our natural environment. Their problems and concerns must be addressed in a timely and responsible manner and not summarily dismissed as secondary in importance to environmental interests and concerns.

By now all of you are familiar with the proposed Two Forks Project in Denver. Whether you are a proponent, opponent or have no opinion concerning this project, you must agree that a federal decision-making process that has taken almost ten years and cost the taxpayers over $45 million to arrive at a veto decision is unquestionably flawed.

As this Committee and the Congress address the overall issue of wetlands protection, we urge you to ensure that the administration of Section 404 also reflects a balanced approach to wetlands protection and the present and future needs of the citizens of all regions of this country.

In summary, I want to assure the Committee that we want to be part of the solution to the problem and not the problem. Therefore, we stand commited to provide whatever support and assistance the Committee requires in its efforts to better manage and protect the wetlands of the United States.

Mr. Chairman, members of the Committee, on behalf of our membership, I thank you for allowing us the opportunity to make our concerns known. At this time, I will try to answer any questions the Committee may have for me.

Working for the Nature of Tomorrow®
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STATEMENT OF
THE NATIONAL WILDLIFE FEDERATION
BEFORE
THE SUBCOMMITTEE ON WATER RESOURCES
OF THE
HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE
ON
RECOMMENDATIONS FOR FEDERAL WETLANDS LEGISLATION

MARCH 13, 1990

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RECOMMENDATIONS FOR FEDERAL WETLANDS LEGISLATION

INTRODUCTION

Thank you for the opportunity to present to the Water Resources Subcommittee this statement on recommendations for legislation to better protect our Nation's wetlands.[1] NWF and its 5.8 million members and supporters have been working to protect wetlands since the Federation was first established in 1936. NWF was an active participant in the National Wetlands Policy Forum and strongly supports the Forum Report and the Forum's Recommendations for Federal Wetlands Legislation (Forum's Recommendations). Our members and colleagues in the environmental community have actively fought to protect wetlands, calling and writing letters to their elected officials, attending public hearings, and organizing and supporting litigation where necessary. In the past year alone, we have distributed over 5000 copies of *A Citizens' Guide To Protecting Wetlands* to individuals requesting information on how to protect wetlands. Hundreds of these requests have been from individuals struck personally by this country's loss of wetlands. These are citizens trying to protect a particular wetland from destruction. These people are concerned enough to spend hours on the telephone with agency officials, in public meetings, writing or calling us to help them in their efforts. These people are waterfowl hunters, sport fishermen, commercial fishermen, birdwatchers, beachcombers, researchers, and just plain old-fashioned concerned citizens. These people are *our* members...and your constituents. NWF urges you to keep these constituents in mind as you deliberate on the future of wetlands protection in this country.

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[1] Almost one year ago now, the National Wildlife Federation (NWF) presented testimony at the first of these wetlands hearings on April 12, 1989. That testimony described the important functions and values of our Nation's wetlands, the rapid rate at which they are declining, and many of the National Wetlands Policy Forum recommendations developed to reverse these wetland losses. That information is not repeated here. Instead, this testimony focuses on specific legislative recommendations and responds to other testimony presented at wetlands hearings on February 27 and 28, 1990.

"Balance" is a word we have heard often in these wetland hearings. We must "balance" the need to protect wetlands with the need for economic development. We too submit that there has been no such balance in the past, and it is precisely the *failure* to weigh wetlands in the balance that has led to our massive loss of wetlands. It is time to strike a new balance that recognizes and accounts for the cost to society of destroying these vital natural resources.

"Common sense" is a phrase we have also heard often in these deliberations. We must use "common sense" in deciding when to let wetlands be altered and where to draw the line in protecting them. The "common sense" of the past is what has lead to the "tragedy of the commons": the loss of valuable public resources because their use was not controlled. The "common sense" of the future must be one that preserves our quality of life and the resources on which we all depend. "Balance" and "common sense" applied to wetlands *cannot* mean the status quo -- the continued loss of at least 300,000 wetland acres each year. NWF urges this subcommittee to lead our country into the Decade of the 1990s with strong wetlands protection legislation.

RECOMMENDATIONS FOR FEDERAL WETLANDS LEGISLATION

1. Issue a Clear No Overall Net Loss of Wetlands Goal to All Federal Agencies.

Federal legislation that clearly articulates a national goal of no overall net loss of wetlands in the short-term, and a long-term increase in our Nation's wetlands, would dramatically improve federal wetlands protection programs. Forum's

Recommendations, at 5. An unequivocal no net loss of wetlands goal for the Clean Water Act (CWA) §404 permit program should significantly improve that program by providing one set of marching orders for the Corps of Engineers (Corps), the Environmental Protection Agency (EPA), and the resource agencies -- the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS).

Since the Act's inception in 1972, the Corps has taken a narrow view of its responsibilities to administer §404 to protect wetlands and other waters of the United States. EPA and the resource agencies, on the other hand, have interpreted §404 in light of their wetlands protection missions. As a result, permit decisions are often made only after arduous and complex negotiations reflecting these different missions and roles. With a common wetlands protection mission, many of the delays and uncertainties which have characterized the §404 program in the past could be avoided.

Moreover, a no overall net loss of wetlands policy applicable to all federal agencies could eliminate many of the federal programs which actually induce wetlands losses, and instead encourage federal agencies to utilize their authorities to protect wetlands. Federally subsidized crop production, irrigation, reservoirs, and flood insurance -- to name a few -- can easily negate the positive things the government does to protect wetlands. A statutory no net loss goal and directive to federal agencies would, for example, encourage the Department of Agriculture to fully implement the Swampbuster provision of the 1985 Food Security Act, simultaneously saving both wetland acres and taxpayer dollars. The no net loss goal alone would galvanize federal agency efforts to protect wetlands.

What does the no overall net loss of wetlands goal mean? First and foremost, it means holding the line on the *physical* destruction of wetlands due to *present and future development activity.* While the chemical contamination and degradation of wetlands is a serious problem which must be addressed to fully protect wetlands, we recommend focusing first on protecting wetlands from physical conversion to other uses. In addition, extensive wetland losses due to "natural" causes, such as sea level rise, and past alterations, such as the Mississippi River levee system and oil and gas access channels in Louisiana, will not be offset in the short-term. The protection of Louisiana's coastal wetlands will require major restoration efforts just to slow the rate of wetlands being lost to the Gulf of Mexico.

Wetlands gains and losses should be measured in terms of wetlands functions where possible, but this will often mean using wetlands type and acreage as a yardstick. Ideally, wetlands gains and losses would be balanced within a watershed or drainage basin to better preserve the ecological integrity of the Nation's waters. Politically, the no net loss goal should be achieved within each state.

What is the role of compensatory mitigation in achieving the no net loss goal? In our view, the answer is that the present role of compensatory mitigation must be a limited one. While wetlands restoration holds considerable promise, efforts to create wetlands from upland have had limited success, at best. [2] Wetlands creation may become more feasible in the future as research and experience improve the state of the art. It must also be remembered that the Forum's recommended long-term goal is to increase the quantity and quality of the Nation's wetlands. Restoration efforts should be at least partially focused on meeting this longer term goal. Wetlands restoration should not become simply the quid pro quo for further natural wetlands alteration.

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[2] Evaluation of compensatory mitigation under Section 404 in the Pacific Northwest. Mary E. Kentula, NSI Technology, Inc., and Jean C. Sifneos.

While compensatory mitigation can play a limited role in achieving the no overall net loss of wetlands, avoiding and minimizing wetland losses in the first place must be the first line of defense against wetlands loss. Hence, the sequential mitigation approach outlined in the Council on Environmental Quality regulations, the §404(b)(1) Guidelines, and now in the recent Corps and EPA Mitigation Memorandum of Agreement (MOA), is a critical component of the no overall net loss of wetlands goal.

2. Expand CWA §404 to Cover Drainage, Dredging, Flooding, Clearing, and Other Significant Physical Wetlands Alterations, As Well As the Discharge of Dredged or Fill Material.

The National Wetlands Policy Forum recognized that the no net loss goal could not be achieved without the ability to control all major forms of physical wetlands alteration, not just discharges of dredged or fill material as provided for under the current CWA §404 permit program. Forum Recommendations, at 13. NWF strongly recommends amending §404 to cover drainage, dredging, flooding, clearing, and other significant wetlands alteration activities, as well as the discharge of dredged or fill material. Without this change, many wetlands conversions will continue to go unregulated as they do today.

This gap in wetland regulation is made distressingly clear in the following excerpt from a 1986 public notice issued by the Corps' Wilmington, North Carolina District, in which the Corps actually offered wetland drainage as a recipe for *avoiding* regulation under §404:

> Because of the wetland elevation and the relatively steep terrain, an alternative available to the applicant is the construction of a permanent drainage system within all of the wetlands which would effectively remove the near surface water on which the wetlands rely. The applicant has the ability to construct such a drainage system so as to avoid the discharge of dredged or fill material into the surrounding waters or wetlands and avoid the requirement of a Department of the Army permit. It is anticipated that, within a few months, probably one growing season, the existing wetlands would be permanently altered to the extent that they would cease to qualify as "waters of the United States" under the jurisdiction of the Corps of Engineers pursuant to Section 404 of the Clean Water Act.

While this change would expand the reach of §404, it might actually help to decrease some of the uncertainty associated with the §404 permit program. In part because of a lack of clear direction from Congress, the Corps has taken a narrow and often inconsistent view of what constitutes a discharge of dredged or fill material which requires a §404 permit. As a result, activities such as ditching, stream channelization, and clearing and bulldozing of wetlands vegetation have absorbed enormous amounts of agency staff time (and litigation resources) as regulators, developers, and environmental groups, alike, grapple with whether such activities are covered by §404. Expansion of §404 to explicitly cover all major physical alteration of wetlands activities would eliminate this source of uncertainty and the associated resource drain.

3. FWS and NMFS Should Have A Stronger Role In Determining the Adequacy of Mitigation Under §404 and the Fish and Wildlife Coordination Act.

Another important legislative change within the jurisdiction of this subcommittee would be to give the federal resource agencies with the biological expertise in wetlands and wetlands restoration -- the FWS and NMFS -- a stronger role in reviewing §404 and Rivers and Harbors Act §10 permits and federal water projects. At present, these agencies have merely an advisory role through §404 and the Fish and Wildlife Coordination Act (FWCA), 16 USC §§661 *et seq.* The Corps of Engineers can, and in many cases has, simply ignored the mitigation recommendations of these agencies.[3] When the Investigations and Oversight Subcommittee of this Committee held hearings on the §404 program in 1988, and asked why many of the FWS recommendations were not adopted and why FWS did not appeal more Corps permit decisions issued over its objections, then FWS Director Frank Dunkle suggested that Congress grant the FWS a more meaningful role in the permit process in order to strengthen federal wetlands protection efforts. [4]

To accomplish this result, we urge the subcommittee to amend §404 and the FWCA to require that FWS (and the National Marine Fisheries Service in coastal areas) recommendations made pursuant to these Acts be designed to achieve no net loss of the affected wetlands. Furthermore, the amendment would require each federal "action" agency receiving such recommendations to accept them -- with only one limited exception. Where the federal "action" agency concludes that adoption of the FWS recommendations would be inconsistent with other federal legal obligations, where efforts to resolve with FWS the inconsistency between the recommendations for wetlands protection and other federal law fail, and where the federal action agency identifies alternative measures that will prevent the net loss of the affected wetlands, the action agency can substitute its own wetland protection measures for those recommended by the FWS.

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[3] See, United States General Accounting Office. 1988. *Wetlands: the Corps' Administration of the Section 404 Program*, at 37-54. GAO/RCED-88-110.

[4] *Administration of Section 404 of the Clean Water Act (100-79) : Hearing Before the Subcommittee on Investigations and Oversight of the Committee on Public Works and Transportation*, 100th Cong., 2d Sess. 180 (September14, 1988) (Testimony of Frank Dunkle, FWS Director).

It is precisely this framework that Congress included in the Electric Consumers Protection Act of 1986 (ECPA) amendment to Section 10 of the Federal Power Act (FPA) (16 U.S.C. 791(a)) to require the Federal Energy Regulatory Commission (FERC) to give strong consideration and due weight to FWS and NMFS FWCA recommendations in hydropower licensing proceedings.

While this provision has been in effect for less than three years, the experience thus far has been that it is beginning to serve its intended purpose: to force FERC to consider carefully fish and wildlife conservation measures suggested by FWS and state fish and wildlife agencies, and to incorporate alternative measures which serve the same purpose if it chooses to reject the FWCA recommendations.

This proposed amendment does not allow FWS to veto federal projects or permits affecting wetlands. Only in those cases where a proposed federal action would unnecessarily destroy wetlands in waterfowl habitat areas of major concern (i.e., practicable alternatives to wetlands destruction do exist) and where unavoidable wetland losses could not be mitigated adequately could this provision effectively stop a federal action affecting wetlands. Particularly where the private and public sectors are investing heavily in wetlands protection, a strong stand on preventing avoidable wetlands losses is just good "common sense."

While the National Wetlands Policy Forum did not expressly make this recommendation, the Forum Recommendations do stress necessary improvements in wetlands mitigation for private development and public projects alike. Forum Recommendations, at 12. FWS and NMFS have considerable wetlands expertise and must play a crucial role in evaluating, planning, and monitoring proposals for wetlands mitigation.

4. Other Changes in §404 Should Be Made Through Rulemaking or Legislation.

NWF urges the Subcommittee to adopt at least two other important changes to CWA §404, or encourage their adoption by the agencies.

Permit Fees -- First, as the Forum has recommended, permit applicants should be paying a permit processing fee that reflects the actual costs of permit review and permit monitoring, including costs associated with monitoring mitigation sites. At present, the Corps charges a $10 fee for non-commercial proposals and a $100 fee for commercial proposals. *These fees are only collected if the permit is issued!* 33 CFR 325.1 (f).

If permit applicants paid a fee which even partially reflected the permit processing costs, if these funds were earmarked for administering the regulatory program, and if these funds *supplemented* general appropriations to the Corps and EPA to run the §404 program, many of the delays and inconsistencies which have plagued the §404 program due to a lack of personnel, travel funds, and training might well be alleviated.

General Permits -- In addition to the 15,000 or so individual permit applications the Corps processes annually, it authorizes an estimated 50,000 activities annually through its 26 nationwide permits. Many of those activities are authorized through Nationwide Permit (NWP) 26. NWP 26 authorizes virtually any dredged or fill activity in wetlands isolated from or above the headwaters of a river or stream, as long as the damage is limited to fewer than 10 acres of wetlands.

To secure this NWP 26 authorization, the general permittee need only send the Corps a notification with his name, address, telephone number, the location of the proposed activity, and a brief description of the proposed work and its potential impact on wetlands and other waters. Unless the general permittee is notified to the contrary within 20 days of receipt of his notification by the Corps District Engineer, the general permittee may proceed with his alteration of the wetlands or other waters.

While the NWP 26 permittee is technically required to comply with conditions and management practices set forth in the Corps' regulations, these conditions are generally not enforced. The Corps regulations include authority to require mitigation of wetland losses allowed under NWP 26, yet such mitigation appears to be the exception rather than the rule.

Moreover, while the Corps and, in many cases, FWS, NMFS, EPA, and state resource agencies, are supposed to be reviewing these NWP 26 pre-discharge notifications (PDNs) to determine whether an individual permit review should be required, the 20-day period allotted in the Corps' regulations for this purpose is simply inadequate. During this time -- often less than 15 business days -- the Corps must notify the resource agencies, the agencies must make time to evaluate the proposed activity and coordinate an agency decision, and that decision must be communicated to the general permittee. In most cases, this schedule simply cannot be met with existing agency resources. *In addition, the public receives no notice of these activities and has no opportunity to comment on the potential impacts of the activity or the need for an individual permit review.*

Because NWP 26 authorizes up to 10 wetland acres to be destroyed without an individual permit review, because activities cannot be thoroughly reviewed in 20 days, because the Corps usually does not enforce NWP conditions, and because NWP 26 shields proposed activities from public review, NWP 26 is authorizing numerous wetlands fills which have more than minimal adverse effects, both individually and cumulatively.

Information from the Corps' Norfolk and Wilmington Districts show that hundreds of wetland acres have been destroyed under NWP 26 authority during 1988 and early 1989, almost entirely for non-water-dependent activities. According to the 404(b)(1) guidelines and the Corps' own regulations, most of these activities could have, and should have, been located away from the water, avoiding adverse impacts to wetlands.

NWP 26 has been used to permit the inundation of large acreages of bottomland hardwood wetlands behind dams which involve less than one acre fills. Because the fills themselves directly affect less than one acre, the resource agencies are not even notified of many of them under the pre-discharge notice requirements of NWP 26, and are therefore unable to seek individual permit review.

NWP 26 has also been used to "segment" projects, restricting the individual permit review to the smallest acreage and activity possible. The Corps' NWP Regional Guidance Letter (RGL) 88-6 expressly encourages this piecemeal environmental review:

> It is entirely appropriate to combine two or more nationwide permits to authorize an activity....Likewise, a project that involves a fill resulting in up to one acre of impacts above the headwaters as well as a minor road crossing fill, is authorized under a combination of NWPs 26 and 14 without the requirement of a pre-discharge notification (PDN). In other words, the acreage limitations of NWP 26 do not include the acreage that may be impacted by other nationwide permit authorizations which may be part of the same project.

The RGL further instructs Corps personnel to permit some elements of a project under a NWP and other elements under an individual permit. By fragmenting the environmental review of these projects, the public is misled with respect to the real environmental costs of the activity, and mitigation for wetland losses associated with the project is never based on total wetland losses and so results in a net loss of wetlands. Even a conservative extrapolation of these findings nationwide demonstrates that thousands of wetland acres are being destroyed each year through the operation of NWP 26 alone.

Clearly, this nationwide permit program must be revised to better protect wetlands. At a minimum, there must be a better "paper trail," so that the Corps and EPA can monitor the cumulative losses that are occurring and so that permittees can be held accountable for general permit violations. At present, the Corps requires only minimal information in a NWP 26 pre-discharge notification. To seriously review a proposed activity, Corps personnel must consume valuable resources collecting additional information.

To remedy this situation, the Corps could require that permit applications include detailed information on the proposed activity, its wetlands and other environmental impacts which must be considered under the 404(b)(1) Guidelines, a detailed mitigation plan, and a certification from the applicant that, based on reasonable investigation and consultation, the proposed activity complies with the §404(b)(1) Guidelines. The permit applicant could also be required to notify the resource agencies of its application at the same time it notifies the Corps. This would expedite the resource agencies' permit review and save valuable Corps resources. This documentation would also provide a basis for evaluating the cumulative wetland losses attributable to NWP 26 and other general permits.

Mitigation of unavoidable wetland losses must also be required to offset wetland alterations allowed through the expedited review process. The permit applicant must be responsible for monitoring the success of such mitigation measures and reporting its results to the Corps. Mitigation requirements must be included in the permit conditions and must be enforced.

Better mapping of wetlands, previously converted wetlands, and other waters at the watershed level would help the Corps and the permit applicant evaluate both wetlands impacts, particularly cumulative impacts, and mitigation opportunities within the watershed. As a result, this type of inventory data could facilitate expedited permit reviews which also achieve the no net loss of wetlands goal.

5. Congress Should Authorize and Appropriate Funds to the States to Encourage State Programs to Achieve No Net Loss of Wetlands.

One of the Forum's primary recommendations was to strengthen the role of the states in protecting wetlands. One of the ways to do so is to provide financial and technical assistance to states to prepare and implement State Wetlands Conservation Plans which provide a road map to achieving the no overall net loss and the long-term increase in wetlands in each state. Forum Recommendations, at 9. While NWF supports strong state wetlands programs, we believe that at the present time and in most cases state wetlands programs should *complement* rather than *replace* the federal §404 program. Assumption of the §404 program by states should be limited to those states which clearly have the authority, the resources, and the capability to implement a program no less stringent than the federal §404 program and to achieve the no overall net loss of wetlands within the state.

6. Congress Should Encourage Landowners to Protect Wetlands Through Federal Income Tax Incentives.

NWF concurs with the Forum's recommendation that Congress encourage private stewardship of wetlands through federal income tax incentives. Forum

Recommendations, at 18. Of the proposals we have seen, the Forum's recommendation to improve the provisions for charitable contributions of wetlands property rights to wetlands preservation trusts seems to give the federal government the "biggest bang for the buck" -- the most wetlands protection for the revenue forgone to the U.S. Treasury. Other forms of tax relief to landowners who enter into wetlands conservation easements should also be given serious consideration.

Federal tax incentives focusing on wetlands management activities -- rather than simple wetlands protection -- must , however, be carefully scrutinized. Often, wetlands management techniques are intended to enhance particular wetlands functions and uses, sometimes to the detriment of natural wetlands functions. Before scarce federal dollars are spent on such practices, their benefits to wetlands should be carefully studied.

7. Swampbuster Provisions in the 1985 Food Security Act Should Be Strengthened in the 1990 Farm Bill.

While the Swampbuster provision of the 1985 Food Security Act is not within this Committee's jurisdiction, each member of Congress will have a chance to vote on it, and the agricultural conversion of wetlands is the major source of wetlands loss which cannot be ignored. The Forum specifically recognized the importance of reducing wetlands losses resulting from government programs, including the vigorous and consistent implementation of Swampbuster to eliminate government inducements for the conversion of wetlands to agriculture. Forum Report at 53.

Swampbuster does not prohibit wetland destruction; Swampbuster simply provides that the federal government will not continue to extend a number of federal farm subsidies to a producer who drains, fills, or otherwise manipulates a wetland and plants an agricultural commodity on that converted wetland.

As a wetlands protection statute, Swampbuster has many limitations. First, it does not penalize a farmer for draining or otherwise manipulating a wetland. Only in a year when a producer plants a commodity, i.e., a crop produced by annual tilling, does the producer risk losing benefits. Consequently, a producer can drain a wetland and decide from year to year whether to plant an annual crop and risk loss of farm benefits. In those years in which the producer wants to ensure receipt of benefits, he can either forego planting in the converted wetland, or plant a perennial crop there.

Another fundamental limitation is that Swampbuster only discourages farmers who participate in federal farm programs. Therefore, those farm operations which do not produce crops with commodity price supports or rely on other federally-subsidized loan and insurance programs, can ignore Swampbuster altogether. Similarly, as crop prices rise or farm subsidies are cut in the future, farmers will have less to lose by cropping converted wetlands in violation of Swampbuster. Finally, Congress enacted certain exemptions to Swampbuster which further limit its effectiveness in reducing wetland conversion.

The NWF has been actively monitoring the implementation of Swampbuster since its enactment in 1985 and found that improper and lax implementation has plagued the program since its inception. Despite the fact that Soil Conservation Service (SCS) estimates indicate up to 300,000 wetland acres have been converted by producers participating in farm programs since Swampbuster was enacted in 1985, NWF's extensive monitoring efforts show that only 26 producers in the entire country had lost benefits as of this time last year due to violations of the law. The total benefits forfeited by those individuals was a mere $123,765.42. During that same period, $90 billion in agricultural subsidies were paid to American farmers. While there is some evidence that Swampbuster may have slowed agricultural drainage, implementation of this wetlands provision is dismal.

NWF proposes strengthening Swampbuster in four respects. First, Swampbuster may never discourage wetlands conversion effectively so long as the ASCS county committees are the primary administrators of the program. We believe that FWS, which has an active consultation role in Swampbuster implementation, should play a primary role in determining Swampbuster compliance. The county committees' inability to properly administer Swampbuster is a result of agency bias, personal bias (members are resident farmers), lack of expertise in wetland issues, and a lack of accountability. County committee members are not professional agency staff and have little professional or financial incentive to enforce laws or regulations with which they disagree. At a minimum, the ASCS and SCS should be required to have FWS concurrence on each Swampbuster exemption determination. This authority would ensure that needed wetlands and wildlife expertise is brought to bear in monitoring important decisions affecting the fate of wetlands. This role for the FWS would also lend needed outside objectivity to Swampbuster decisions.

Second, Swampbuster should be amended to make producers ineligible for benefits upon *wetland conversion, regardless of whether a commodity crop is planted.* The cropping requirement substantially diminishes the producer's incentive to preserve wetlands and also makes Swampbuster more difficult to monitor in the field. While ASCS, SCS, or FWS field personnel are likely to observe and report new drainage activity, they simply do not have the resources to systematically review previously converted wetlands to determine whether they are being planted to a commodity crop from year to year.

Third, in light of the public resources at stake, Swampbuster should encourage and facilitate the participation of environmental organizations and concerned citizens. Therefore, the legislation should establish and encourage the use of an effective procedure for reporting, recording, and following up on potential Swampbuster violations. In addition, the Food Security Act should be clarified to expressly provide that a formal administrative appeal is available to non-producers as well as producers denied benefits. While the present statutory language seems to provide for such an appeal, the USDA regulations limit the right of appeal to producers. As a result, only a decision withholding subsidies and favoring wetlands protection can be "second-guessed" and reversed through the formal appeals process. There is no formal means of challenging a decision which favors the producer to the detriment of a wetland. The administering agencies must be held accountable to the public as well as the producer.

Finally, the farm program subsidies to which Swampbuster applies should be expanded, particularly to include other forms of subsidized farm credit in addition to

Farmers Home Administration (FmHA) loans. With the huge federal bailout of the Farm Credit System (FCS) in 1987, it makes little sense that farmers should be able to use these subsidized FCS loans to finance wetlands conversion on their farms.

8. Congress Should Amend the Food Security Act to Provide For An Agricultural Wetlands Reserve.

Like the Forum, NWF recognizes that curbing wetlands conversion to agriculture will sometimes require compensating farmers for protecting wetlands on their lands. This is particularly true for "temporary" wetlands which are seasonally wet and can sometimes be farmed. NWF strongly supports the Forum's recommended wetlands reserve program which pays farmers for *permanent* wetland easements to conserve the 5 million or so wetland acres most vulnerable to agricultural conversion -- primarily those which have been farmed at times in the past. This reserve would also pay farmers for permanent wetland easements to restore and then conserve approximately 2.5 million acres of former wetlands which were converted to agriculture in the past. Forum Recommendations at 17. These easement programs, however, *must* be long-term to protect the taxpayers' investment in wetlands protection. To continue to pay farmers prevailing rental rates to protect wetlands for 10 years through the Conservation Reserve Program, only to see them drained at the end of the payout, is not a good deal for the American people.

A permanent wetlands easement program targeted to farmed wetlands which compensates farmers fairly could protect millions of acres of farmland without resort to regulation and, at the same time, add millions of wetlands to the credit side of the wetlands ledger.

9. Congress Should Enact An Aggressive Wetlands Restoration Program.

NWF also supports the Forum's recommendation that Congress enact legislation establishing a Wetlands Restoration Initiative. Forum Recommendations, at 16. We believe there are enormous opportunities to restore wetlands on public lands, as well as lands -- such as FmHA inventory lands -- that are owned or controlled by the government due to foreclosure on federally-subsidized loans.

In addition, NWF urges this subcommittee to broaden the mission of the Corps to include wetlands restoration. The Corps has considerable engineering and wetlands development expertise that could be effectively applied to wetlands restoration projects. The Corps' plans to restore the Everglades wetlands hydrology and to address the dramatic loss of coastal Louisiana wetlands are good examples of the Corps' potential capability.

Realistically, wetlands restoration will be an important component of a national no net loss of wetlands program. NWF recognizes that it will not be possible in every instance to avoid all wetlands alterations or to provide real 1-for-1 replacement of wetland acres and function where such losses are unavoidable. Wetlands restoration must be accomplished to make up the deficit.

NWF cautions, however, that federally-funded restoration projects must *not* be used to offset present and future privately-sponsored wetlands destruction. Federally-funded restoration should be targeted primarily at beginning to redress past wetland losses. Where federally-funded restoration is pursued as mitigation for federal development projects, such restoration should be recognized and treated as part of the overall project cost.

10. Congress Should Authorize and Fund Federal Wetlands Research, Mapping, and Education Efforts.

As much of the testimony at these hearings suggests, many of the criticisms of wetlands programs could be addressed with updated and accurate data on the specific locations of wetlands, their characteristics, functions and values, the cumulative losses of each type within specific watersheds and drainage basins, and the specific causes of wetlands losses. The FWS National Wetlands Inventory should be authorized and funded to complete its wetlands mapping of the country expeditiously, and to prepare updated status and trends reports monitoring the rate and causes of wetlands loss.

The federal agencies with wetlands expertise must be funded to conduct responsible and objective research on wetlands functions and on the feasibility of wetlands restoration and creation -- research which can be applied readily in the permit review process. Wetlands protection decisions cannot continue to be made -- as they sometimes are now -- based upon the *farmer's* or the *oil developer's* subjective definition of what is wet enough to be "wetland." To maintain the physical, chemical, and biological integrity of the Nation's waters, wetlands protection decisions *must* be based first on a scientific definition of wetlands and a scientific assessment of the value and function of wetlands in the environment.

Ultimately, protecting wetlands will require a broad understanding of the importance of these areas to our quality of life...a far cry from the "drain that swamp" mindset of our predecessors. Time and again we have heard farmers complain that if someone would only explain *why* these areas are so important, they would be willing to help protect them. NWF has worked hard to educate school children and adults, alike, of the values of these precious natural resources. But more must be done. We urge this Subcommittee to promote these educational efforts, as well.

OPPOSING VIEWS

1. Defining Wetlands: Through Science or Politics?

The Corps of Engineers has been much maligned in these hearings as reaching out to expand its jurisdiction to "dry" lands. The Corps of Engineers -- the agency which NWF and others took to court in 1975 to *force* it to regulate anything other than *historically navigable rivers* -- is now being accused of "land-grabbing" simply because for the first time in the 17 year history of the program this agency is actually trying to do its job.

After years of bickering over how to decide where to "draw the line" between wetland and upland, last year the Corps, EPA, FWS, and SCS experts finally developed, field-tested, and began to apply a uniform, biologically defensible, definition and methodology for identifying wetlands. While that wetland definition may not comport with the farmer's understanding of what a wetland is, it *does* comport with the goals and directives of the Clean Water Act and *is* scientifically-grounded. Contrary to some representations made in these hearings, the federal wetlands methodology requires the confirmed presence of the three crucial parameters which define a wetland: the presence of ponded water or water-saturated soils for a prolonged period during the growing season, the prevalence of hydrophytic vegetation under normal circumstances, and hydric soils. Simply because a wetland is not wet year round does not make it any less a wetland with all its attendant functions and values.

NWF strongly supports the scientifically-grounded wetlands definition and methodology now being used by the Corps, EPA, FWS, and SCS. It is just "common sense" that to protect the integrity of our Nation's waters, we must at least start by including all of these wetland areas within the regulatory program. If we define our temporary wetlands out of existence, if we take them off our maps and exempt them from the start, then we lose any opportunity to protect them. Now that the federal agencies have agreed on a common definition and methodology, any changes in the definition of wetlands must be strongly resisted.

Of course, it is important to recognize that just because an area is defined as a wetland under §404 does not mean that it cannot be used -- or even altered. Whether and to what extent wetlands alteration is permitted should be based upon the sequential mitigation requirements in the §404 (b)(1) guidelines which are, in turn, considered in light of what is known about wetlands functions and values. Drawing wetland boundaries on a map *do not* a "land grab" make.

2. Private Stewardship and the Takings Issue

Clearly, the fact that wetlands are a public resource often situated on private land raises questions about how to equitably spread the responsibility for wetlands protection. The National Wetlands Policy Forum members agreed that the public must share this responsibility with private landowners. Hence, it is appropriate that the government should pay farmers to put wetland easements on wetlands which are also productive farmland and provide tax incentives to encourage landowners to protect wetlands on their property. It is also appropriate for the government to finance wetlands restoration projects and to conduct wetlands research and inventories which will assist landowners in planning their land uses.

However, landowners also have a responsibility to manage land so as not to detract from the public health and welfare of the community. For almost a century, we have recognized the power of the government to put conditions on the use of land in order to protect the public good. Just as the government restricted the rights of coal companies in the 1920s to exercise their mineral rights to the point of causing subsidence to the land above the mine, so to should the government restrict the rights of landowners to drain and fill our Nation's waters.

History demonstrates that this balancing of public and private responsibilities to protect wetlands only occasionally raises a real constitutional taking question. According to the Supreme Court, where there is a legitimate state interest -- as is found to be the case with most environmental regulations -- there is no regulatory taking unless virtually all economic use of the land is eliminated *and* the landowner has been refused just compensation after resorting to the processes provided for by the government for such compensation.[5]

In the case of wetlands, if in fact a landowner can show that denial of a permit to alter wetlands on his property has deprived him of the economically viable use of his land, then his remedy is to seek damages against the government in the U.S.Court of Claims under the Tucker Act. [6] If the landowner prevails, then like any other citizen with a damage claim against the government, the government pays the amount of the judgment. In reality, despite the fact that the Corps has processed approximately 10,000 permits per year for the past 18 years, we are not aware of *any* case in which the courts have found a "constitutional taking" requiring the payment of just compensation as a result of the §404 permit program.

In our view, the takings concern raised with respect to wetlands legislation is a red herring and has been greatly exaggerated. The federal government frequently pays compensation when it "takes" land for federal highways and federal water reservoirs. The federal government maintains a special judgment fund for these and other claims against it. Having recognized the importance of protecting the Nation's remaining wetlands, we ought to be prepared to pay the landowner just compensation in those relatively rare instances in which wetlands restrictions are deemed to cause a constitutional taking.

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[5] See, Penn Central Transportation Co. v. City of New York, 438 U.S. 104, 131 (1978); Preseault v. Interstate Commerce Commission, No. 88-1076, Slip. Op. at 7-8 (S. Ct. February 21, 1990).

[6] Presault, supra.

3. Give §404 a Chance.

These hearings have been riddled with horror story after horror story of delay, inconsistency and purported "over-reaching" by the Corps, EPA, and FWS. Many of these are only half-truths...the testimony of the Washington Legal Foundation (WLF), counsel to John Pozsgai, is a case in point. Mr. Kamenar, Executive Legal Director of WLF, paints Mr. Pozsgai as a poor immigrant trying to fulfill the American Dream who falls victim to a complex regulatory program and sneaky federal regulators. Yet, the federal district court's ruling and the grand jury indictment show that the Corps warned Mr. Pozsgai of the §404 permit requirements in April 1987, *before Mr. Pozsgai even bought the land.* The record shows that the Corps repeatedly notified Mr. Pozsgai that his dumping activity was illegal and that Mr. Pozsgai continued to disregard these notices, dumping fill into the wetland on over 30 occasions in 1987 and 1988.

The fact is that Mr. Pozsgai simply did not agree with the Corps and EPA that the wetland on his land should not be filled and developed, and he acted in total disregard for the law. As the judge stated in sentencing Mr. Pozsgai,

> It is hard to visualize a more stubborn violator of the laws that were designed to protect the environment. I think the sentence has to take into account not only punishment for that high degree of willfulness but also serve as a deterrent to others....[7]

Even assuming that some of the §404 "horror stories" have an element of truth, it is essential to recognize the root causes of the problems with this program. The problems of delays, inconsistencies, and uneven treatment by regulators can largely be explained by the handicaps under which this program has labored. To a very real extent, the problems with this program are creatures of Congress itself. First, §404 was enacted without a single clear mandate and put in the joint control of the Corps and EPA -- two agencies with very different missions. Then the program was deprived of the personnel and the travel and training funds necessary to adequately serve the public or protect wetlands.

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[7] Court transcript, at 66 (July 13, 1989).

Now, probably for the first time in the history of the §404 program, the stars are aligned to make this program work. The Corps recognizes its wetland protection mission, the Corps, EPA, and FWS have agreed to a common §404 wetlands definition and delineation boundary, the Corps and EPA have agreed on a mitigation policy supported by the §404(b)(1) Guidelines, and both agencies are beginning to get the funding they need to function. If Congress is *really* interested in protecting wetlands, it will not condemn this program based on isolated "horror stories" of past agency performance, but give it a chance to work. Indeed, as noted above, the §404 framework should be expanded to cover other major wetlands alteration activities.

4. The Agricultural Conversion of Wetlands Must Be Stopped.

The American Farm Bureau Federation (AFB) and several agricultural producers -- or their lawyers -- have complained at these hearings of problems with the §404 program. Yet, §404 does not apply to "normal" farming practices such as the maintenance of ditches, levees, farm roads, and stock ponds. *It is only when such farm practices convert additional wetlands or other waters to a different land use, or further alter the flow and circulation or reduce the reach of such waters, that a §404* *permit is required.* Even then, the proposed activity is not necessarily prohibited, but must be planned in a manner consistent with the §404(b)(1) Guidelines. It is only "common sense" that agricultural activities -- like other activities -- which divert, destroy, or impound waters of the United States be subject to restrictions that maintain and restore the physical, chemical and biological integrity of the Nation's waters.

The event that seems to have triggered these criticisms from agricultural producers is not the denial of permits, but the fact that under the new federal joint delineation manual, areas are being designated wetlands that do not conform to the *agricultural producer's* definition of wetland. The testimony from these interest groups indicate that farmers simply do not believe they should have to seek a permit for or modify their use of their land in order to protect wetlands that are not permanent in nature. Many of the temporary wetlands that farmers refuse to acknowledge provide important waterfowl and other wildlife habitat, flood control, groundwater recharge, and water purification functions. Any effort to stem the losses of wetlands -- most of which is attributable to agricultural conversion -- *must* control the conversion of these temporary wetlands.

Congressman Alexander's recently introduced bill, the "Agriculture Wetlands Exemption Act," attempts to solve the agricultural wetlands problem by simply exempting virtually all wetlands located on farm property from §404. While this "solution" may silence farmers' complaints about §404, it ignores the fact that agricultural conversion of wetlands is the single biggest contributor to wetlands loss. If all agricultural wetlands are exempted from §404, we will lose control over most of our potential wetland losses, and forfeit any prayer of ever achieving the no net loss of our Nation's wetlands. Moreover, while this "solution" may seem very fair to farmers, it is very unfair to every other sector of society. Because agriculture is *the* major contributor to the wetlands loss problem, it must at least be an equal contributor to the solution.

According to the AFB, farmers support "cooperative efforts" on wetland issues. Yet, on close examination, the farmers' "cooperative efforts" sound like "give me." Not only does the agricultural sector seek a blanket exemption from §404, but it opposes even the acquisition of permanent wetlands conservation easements. What *are* cooperative efforts to the agriculture groups? Annual rental payments through the Conservation Reserve Program (CRP) in return for 10 years of wetlands protection. Billions of taxpayer dollars and 10 years later, farmers can plow up those wetlands, despite the fact that they have been paid for several times over by the American taxpayer.

The recent controversy over protecting wetlands in Farmers' Home Administration (FmHA) inventory provides a case in point. There are almost 2 million acres of farmland, including approximately 300,000-500,000 wetland acres, that have been returned to the FmHA inventory due to farmers defaulting on FmHA loans. These inventory lands are federal lands, collateral for federally-financed farm mortgages. FmHA and FWS had developed a very "common sense," cost-effective way to protect wetlands without infringing on private property rights: to place deed restrictions on these farms returned to inventory before resale. The resale price would reflect any new restrictions on the property.

Even this reasonable approach has run afoul of some members of the agricultural community who believe that if the prior owner is seeking to buy back his land, he has a right to buy it back exactly as it was when he defaulted on his loan -- without wetlands protection easements. This is so even though the farmer is likely to be buying back this property with *another* federally-subsidized loan. FmHA has lost an estimated $36 billion in taxpayer money through these farm credit loans, yet the farmers benefitting from these subsidies continue to seek relief from *any* responsibility to protect wetlands on their lands.

Farming and wetlands can co-exist. Farmers like Mr. Ray McCormick of Vincennes, Indiana prove that. Mr. McCormick testified recently before the House Agriculture Committee in favor of a strong Conservation Title in the 1990 Farm Bill. He was quoted last month in *Successful Farming* Magazine as saying:

> Farmers testified in the State House recently that a wetlands protection bill would reduce the value of their farmland. I disagree. These wetlands are the most valuable part of my farm. Protection of wetlands is essential to agriculture."

NWF recognizes that protecting agricultural wetlands will require a mix of incentives, including the acquisition of permanent easements, *and* regulation. We also recognize that §404 mitigation policy will have to take into account the specific circumstances of farmers, and that the program's experience in this regard is probably limited at this time. But "common sense" -- as well as fairness -- dictate that farmers who choose to convert wetlands and alter the Nation's waters *must* play by the same rules as other wetland developers. Farmers should not be exempted from §404.

5. Fact, Fiction, and the Unknown in Alaska

Ever since President Bush confirmed his campaign pledge to protect wetlands in early 1989, Alaska oil and gas interests have been working to carve out an exception for the state of Alaska. In March 1989, these interests began distributing expensive, glossy-coated public relations pamphlets touting three main points: (1) Alaska's permafrost wetlands are somehow different from those in the lower 48 states, and therefore deserve "special treatment;" (2) these wetlands are of "low value" and are so abundant that destroying some of them does not matter; and (3) Alaska should be exempt from a national no net loss policy. When the Corps and EPA signed their original Mitigation Memorandum of Agreement (MOA) in November 1989, they were subjected to an onslaught of opposition from these interests, adding a fourth fiction: a no net loss policy applied to Alaska would halt development in its tracks.

These assertions are unfounded and should be carefully scrutinized. They certainly should not be the basis on which this subcommittee develops a no net loss wetland policy for the entire country. First, the characterization of Alaska wetlands as virtually worthless is based on scanty data, and a disingenuous interpretation of that data. [8] Studies are underway now to shed light on the oil industry's wetlands report. While the relative ecological value of particular North Slope wetlands should be taken into account in determining appropriate mitigation for wetland losses, these permafrost wetlands must not be "written off" based on the information that has been presented by the oil and gas industry thus far.

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[8] See e.g., Memo to NMFS Administrator William Fox dated January 2, 1990, attached.

Second, it should go without saying that it is precisely the attitude that abundant resources need not be conserved that led to the dramatic wetlands losses in the lower 48 states. Third, as long as the actual (rather than the fictional) unique characteristics of the North Slope wetlands are taken into account, as they can be in the §404(b)(1) guidelines and the Mitigation MOA, a no net loss policy will not stop all development in Alaska. The sequential mitigation framework of the §404 guidelines and the MOA is a critical feature of the no net loss policy. *It guides development away* from wetlands and other waters of the United States. This framework is as sensible and as applicable in Alaska as it is in every other state in the Union.

6. Highways, Water Projects, and Other Public Infrastructure Development Must Be Designed to Protect Wetlands.

Like Alaska oil and gas and agriculture, transportation and water supply interests argue to be free from wetlands restrictions. The arguments they present basically amount to not wanting to be "second-guessed" about the wisdom of their "preferred alternatives" for transportation and water supply from an environmental perspective. For the past 40 years, highway and water supply authorities have "called the shots" on where and when highways and water supply reservoirs would be built -- all in the name of, as Brian Holmes put it in his February 28th testimony, "needed public works infrastructure construction projects, which provide for future growth and development." Now that environmental concerns, including wetlands protection, have become a concern equal to the need for growth and development, transportation and water supply projects *must* be developed in an environmentally sensible manner. If wetlands and growth are really to be "balanced," it is crucial that these public projects be subjected to the scrutiny of the §404 permit review process. This process must involve "second-guessing" highway and water supply planners and engineers to ensure that the least damaging environmental alternative is chosen. Unfortunately, transportation and water supply authorities do not appear ready to accept the level of scrutiny required to protect wetlands.

The crux of the argument presented by Mr. Holmes is that once public projects have satisfied the National Environmental Policy Act (NEPA) environmental review process, they have also satisfied §404, and the Corps and EPA should not be hold up a project. This argument ignores the fact that the alternatives analysis under NEPA is only a procedural one: so long as the Environmental Impact Statement (EIS) considers reasonable alternatives, the project proponents are generally free to choose as they wish among those alternatives. Under the §404 (b)(1) guidelines, however, the project proponents must *prove* that they do not have an environmentally preferable alternative to their "preferred alternative." The Corps and EPA must ensure that this §404 standard is met.

Mr. Holmes says, "the Corps has reserved for itself the right to determine the purpose served by a project...to disregard the statement of purpose used in the NEPA process." This independent definition of purpose is, however, a necessity. If the Corps and EPA's review of alternatives is confined to alternatives which meet the custom-made project under consideration, the project purpose can be stated so narrowly as to make the alternatives test meaningless.

The Two Forks water supply reservoir is a perfect example. If the purpose of the project is stated as "building a water supply reservoir," then the only alternatives are bigger or smaller or different reservoirs...all of which will by necessity cause significant impacts to the aquatic environment. However, if the project is defined as "providing a reliable water supply source for the City of Denver," then numerous options, including water conservation (of which there has been very little in Denver to date), emerge. This broader definition of purpose opens up the alternatives analysis and allows for the possibility of providing for growth without destroying aquatic areas. While transportation and water supply authorities seem to resent the Corps and EPA "second-guessing" their stated project purpose and limited analysis of alternatives, we submit that this process is absolutely fundamental to a real "balancing" of wetlands and growth concerns.

NWF agrees that every effort should be made to coordinate the NEPA and §404 review processes in order to expedite project planning. We question, however, the fairness of accusing the Corps and EPA of "hanging back from forthright disclosure in the NEPA process in order to ambush projects in the 404 process." [9] The Corps and EPA cannot begin to analyze a project under §404 until the project proponents submit a §404 permit application. Once that application is submitted to the Corps, it must, in turn, be subjected to public notice and comment. It is therefore up to the project proponents to get the §404 ball rolling.

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[9] Testimony of Brian R. Holmes before the House Public Works and Transportation Water Resources Subcommittee, February 28, 1990.

Transportation and water supply projects would also run afoul of wetlands restrictions less often if these concerns were addressed earlier in their project planning. All too often we hear that rights-of-way have been purchased far in advance of any environmental review. How much flexibility can there be in project planning once the public has invested in rights-of way? If public works planners and engineers would involve resource agency staff and the public in their plans from the outset and everyone had the benefit of "forthright disclosure" the co-existence of wetlands and roads could probably be arranged.

CONCLUSION

No overall net loss of wetlands is a goal that recognizes the need for "balance" and "common sense." It *does not* mean no growth, but environmentally sensible growth. A combination of regulatory and nonregulatory programs will be necessary to achieve this goal and to move on to the long-term goal of increasing the quantity and quality of our Nation's wetlands. For the necessary programs to be put in place, this subcommittee *must* take a leadership role. The avoid first, then minimize, and finally compensate mitigation scheme of the §404(b)(1) guidelines and the recently enacted Mitigation MOA has withstood the test of time and makes sense. This scheme must be at the core of any realistic no net loss of wetlands effort.

For the first time in its history, the §404 program seems to be moving toward the unified mission and the necessary field resources to actually work. Rather than weaken §404, NWF strongly urges this Subcommittee to strengthen it by expressly stating the no overall net loss of wetlands goal and by expanding the wetlands alteration activities covered by the Act beyond just the discharge of dredged and fill material. This Subcommittee should also work to ensure that the Corps receives the necessary resources -- through permit fees and otherwise -- to administer this complex program efficiently and fairly.

Thank you, Mr. Chairman, for the opportunity to appear before the Subcommittee today to provide these comments.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
P.O. Box 21668
Juneau, Alaska 99802-1668

January 2, 1990

MEMORANDUM FOR: F - William W. Fox, Jr.

FROM: for James W. Brooks F/AKR - Steven Pennoyer

SUBJECT: No Net Loss of Wetlands and Alaska

President Bush's proposed policy of No-Net-Loss of Wetlands has generated considerable interest, concern, and even hysteria here in Alaska, despite the fact that, to date, specifics of this policy remain undefined. Almost every other day we see another media article that suggests that this Policy will "cripple" Alaska's economy. Alaska's elected officials and the oil companies have undertaken an active campaign to have Alaska excluded both from any policy developed by the Domestic Policy Council and from the EPA/COE Memorandum of Agreement (MOA) concerning mitigation. If they are successful, our ability to conserve coastal wetland habitats vital to the maintenance of Alaska's fisheries will be severely compromised. NMFS needs to launch its own campaign to 1) assert the importance and value of coastal wetland habitats in Alaska, 2) outline the inaccuracies in the arguments made by those who seek to exclude Alaska from national wetland policies, 3) support EPA and the COE in their proposed mitigation MOA, and 4) work with other agencies to obtain needed data on the areal extent and loss rates of specific wetland habitat types in Alaska. Our overall short-term goal should be to ensure that, at a minimum, western and southeastern Alaska's coastal wetlands are included in all national policy/programs that are developed.

Most of the concerns expressed by elected officials and industry representatives center around the regulation of fill in tundra wetlands associated with north slope oil and gas development. Studies to date show that these tundra wetlands provide limited fisheries habitat values. Therefore, F/AKR generally does not object to the issuance of permits for tundra fill. Conversely, coastal marine, estuarine, and riverine wetland habitats in western and southeastern Alaska provide vital spawning, rearing, and feeding area for many of Alaska's premier commercial and sport fisheries, e.g., five species of Pacific salmon, steelhead trout, herring, and Dungeness, tanner, and king crab. The current "exempt Alaska campaign" lumps all of Alaska's wetlands into one exclusion category without acknowledging the major differences both in fisheries values and, very probably, in loss rates between coastal wetlands and interior tundra wetlands.

Much of the pro-exclusion arguments (See attachment) seems to rest on the "fact" that Alaska has lost about 0.05% of its wetland base to human development. This loss estimate appears to have originated in a report (Senner 1989) prepared for ARCO Alaska, Inc. and BP Exploration (Alaska) Inc. We have reviewed this document and find that this loss estimate is not substantiated with data or even a thorough discussion of the methods used to derive the estimate. The only wetland loss estimates we are aware of for coastal wetlands in Alaska indicate that, at least locally, coastal wetland loss rates are much higher. Adamus et al. (1987) estimated that Juneau wetlands have been reduced by 13% since 1948. Wetland reductions in the Anchorage area for 1982-1987 were estimated at nearly one-third (27-31%) of the community's 1982 wetland base (Municipality of Anchorage 1988).

Without differentiation by habitat type and geographic area, the significance of wetland losses to fisheries is obscured. According to estimates, wetlands comprise 170,000,000 acres of Alaska's land area. However, according to the National Wetlands Inventory (Hall 1988), only 20,961,566 (11%) of these acres are coastal wetland and deepwater habitat. The majority of this coastal wetland habitat (90%) consists of estuarine subtidal habitat. Estuarine intertidal vegetated wetlands comprise only 1.7% of the state's coastal wetland area, and marine and estuarine intertidal unvegetated flats comprise the other 8.3%. These shallow nearshore zones are particularly important as spawning, feeding, and rearing areas for fishery resources. However, their proximity to upland makes these areas particularly vulnerable to human development pressure.

We have been working diligently to ensure that the same level of protection mandated in the Clean Water Act is afforded to coastal wetlands in Alaska as in the rest of the United States (Faris et al. 1988). Because of the frontier perspective and geographic isolation, this has been an extremely difficult task. If Alaska is excluded from the no-net loss policy and the COE/EPA MOA, our habitat conservation efforts will be dealt a serious setback. We cannot allow regulatory agencies and industry to get the message that wetlands in Alaska are less important than wetlands in the rest of the country.

Coastal wetlands in Alaska continue to support the Nation's largest fisheries and one of the State of Alaska's greatest industries. Additionally, these wetlands generally provide the important societal functions of water quality improvement, floodwater desynchronization, sediment and shoreline stabilization, nutrient export, and buffers to storm and other surface water disturbances. These coastal wetlands warrant additional measures for their protection and maintenance. It is imperative that NMFS directs a concerted effort to ensure that Alaska coastal wetlands are not excluded from any national policies or programs. An increased commitment is also needed to ascertain accurate habitat-specific data on Alaska's wetlands.

We await your direction on what approach you wish the agency to take in these matters. The Alaska Region Habitat Conservation Division staff are prepared to assist in this effort.

Attachment

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STATEMENT BY ROBERT HEARON

ENVIRONMENTAL AND PRODUCTION SERVICES MANAGER

IMC FERTILIZER, INC., BARTOW, FLORIDA

BEFORE

THE HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE

WATER RESOURCES SUBCOMMITTEE

HEARING ON WETLANDS

MARCH 13, 1990

Distinguished Chairman, members of the subcommittee, my name is Bob Hearon, I am the Environmental and Production Services Manager for IMC Fertilizer, Inc., Minerals Operation in Bartow Florida. I appear hear today on behalf of The Fertilizer Institute (TFI) our industry's national association which we are a member, and the Florida phosphate industry. On their behalf, I thank you Mr. Chairman and the subcommittee for the privilege to testify this morning on the important issue of preserving and protecting our nation's wetlands.

We commend you Mr. Chairman for your leadership in bringing together congressional, environmental, industrial, and land developing interests so that each and all views concerning wetlands and wetlands preservation can be aired and discussed. The length of today's witness list is proof of this subcommittees strong committment to wetlands preservation and to help assure time for the remaining panel members I will keep my testimony brief.

As you may know Mr. Chairman, wetlands preservation has been a major environmental preoccupation for decades. More than half the estimated original 200 million American wetland acres have been drained, filled, cleared, farmed, mined or developed since 1950. Most of the wetlands are privately owned and more than 500,000 acres are lost to erosion and development each year.

The Florida phosphate fertilizer industry, mines and reclaims Florida wetlands to recover an important non-renewable natural resource. Before I discuss the industry's mining and reclamation processes, let me first tell you a little about our product.

Phosphate, like all other fertilizers, is a plant nutrient. Phosphate is a nutrient that can best be compared a vitamin. Just as the human body needs a continual supply of vitamins through food and liquid intake to support life, plants must receive adequate levels of nutrients. The plants I'm referring to are harvestable crops such, as corn, wheat, animal feedgrains, peanuts, fruits, vegetables and many others that are the pillars of America's and ultimately the world's food supply.

"About 80 percent of the world's food supply is produced on only 10 percent of the world's surface; this extraordinary state of affairs is only possible because of agricultural research, a high degree of mechanization, and the development and widespread use of commercial fertilizers."1

A typical high school chemistry book will point out that the three primary nutrients used by plants for growth and fruit production are N, P & K--nitrogen, phosphate and potassium. Agricultural crops, in order to be harvested on an annual basis, deplete the soil's natural supply of these three nutrients. Therefore farmers, in order to resupply the soil with these nutrients to sustain soil fertility and crop productivity, apply commercial fertilizers containing phosphate during the annual tillage and planting process.

That's what phosphate does Mr. Chairman and if you would please refer to the photographs I've supplied you and the members of the subcommittee, I will briefly explain the Florida phosphate industry's mining and reclamation process.

1/"Strip Mining in Paradise," International Mining Magazine, October 1989.

PHOTO #1—The first photo is an aerial photograph of a typical wetland area prior to the mining process. The land is privately owned by IMC Fertilizer Inc., and the necessary wetlands land use permits were filed for and received long before the land was disturbed.

As you look at the first photo, keep in mind that the majority of wetlands we permit, mine and reclaim are not so called "virgin" wetlands. About 80 percent of the nation's phosphate comes from a four county area in Florida which is less than 2 percent of the total land area of the state. The majority of wetlands we mine are isolated wetlands systems that have been altered over the past 50-100 years for farming, mosquito control and other purposes.

PHOTO #2—The second photo shows one step in the mining process. The nature of strip mining for phosphate is one of the most basic mining techniques. A dragline cuts and stacks the surface overburden to one side of the mine cut. The phosphate rock raw material exposed (together with sand and clay), which lies from 10 to 80 feet below the surface, is then mined and slurried for transport to the processing plant.

PHOTO #3—Once the phosphate rock deposits are mined-out in the particular trench, the overburden is reshaped or sand pumped back from the plant is used to refill the void. The wetland overburden topsoil which was removed and stacked to one side, or brought from another donor site, is then brought back, leveled, and used as a topsoil cap to a depth of 2-12 inches in preparation for new plant and biological growth, hydrology movement, and wildlife habitation. The third photo shows IMC equipment leveling and recycling the overburden topsoil in preparation for replanting.

PHOTO #4—The fourth photo shows the preliminary results of the planting process. The photo shows a recently completed reclamation site accomplished in cooperation with the Florida Game and Fresh Water Fish Commission. The permitting process administered by the Corp. of Engineers, Environmental Protection Agency, Florida Department of Environmental Regulation, Florida Department of Natural Resources, and local agencies, strictly dictate reclamation criteria and what types and diversity of vegetation is to be replanted on a particular site, which in turn dictates the eventual type and function of the reclaimed wetland.

Reclamation is a proven method of restoring wetland areas disturbed by phosphate mining. But, as you well know Mr. Chairman, all wetlands are not created or recreated equal—in type, nature, function or value. Reclamation can involve reforestation of wetland areas to hardwood forest, herbaceous marshes, cypress forests, or lake, stream and marsh systems. Reclaimed wetland areas can be designed with previous vegetation types or designed to fit the needs of local and state fish and wildlife needs.

PHOTO #5—The fifth photo is an example of a wetland completed by IMC but not completed by mother nature. My point, is that the reclamation process is only the beginning. IMC's eco-engineers can design a reclaimed wetland for certain biological and aquatic sustainability, provide fish, vegetation, and wildlife habitat. But mother nature quickly takes over and will eventually shape the reclaimed area to her liking.

PHOTO #6 &#7—These photos depict reclaimed marsh and stream systems supporting various kinds of plant life while supporting and providing habitat for water fowl.

PHOTO #8—The last is an example of a reclaimed hardwood forest system providing wetlands canopy cover, bird and other wildlife habitat.

Mr. Chairman, the Florida phosphate fertilizer industry is the world leader in mining and reclaiming wetlands. To date, the Florida phosphate industry has reclaimed more than 4700 acres of mined wetlands at an average cost of between $2,500 and $3,200 per acre. Concerning "no net loss", for every acre mined by the Florida phosphate industry, an acre is reclaimed. In most cases the industry reclaims at a 2 and even 3 to 1 ratio—3 acres reclaimed for every 1 acre mined. That results in a net increase of wetlands. The Florida phosphate industry has by far, reclaimed more wetlands than any other industry, land developing organization or environmental group combined in the United States. Only D.U., with its efforts in Canada since the 1930s can claim the creation of more wetland acres through their water management programs.

The Florida phosphate industry has a proven record of mitigation, earning national reclamation awards from such recognized groups as the National Wildlife Federation 1985, 1987; U.S. Fish and Wildlife Service 1984, 1985; and the National Association of Land Reclamationists 1977; and the Florida Wildlife Federation 1985.

The Florida phosphate industry has also received recognition and support from recognized groups as U.S. Department of Interior, Florida Department of Natural Resources, Florida Audubon Society, Florida Wildlife Federation, Florida Ducks Unlimited, and the Florida State Legislature. You have copies of those awards and letters in your packet Mr. Chairman and with your permission I will submit further copies and a statistical analysis of the Florida phosphate industry for the record.

Briefly, Mr. Chairman I will discuss the Florida phosphate industry's position on "no net loss" and the recently published Memorandum Of Agreement (MOA) between the Army Corp. of Engineers and the Environmental Protection Agency.

As you know, in his first term as President of the United States, George Bush has placed wetlands protection on the national agenda and has endorsed a national goal of "no net loss of wetlands." Also, members of the United States Congress have introduced a variety of legislation initiatives for achieving increased preservation and protection of wetlands.

The Florida phosphate industry has lived with self imposed and Florida state guidelines requiring "no net loss" for more than 20 years. Resulting, as I said before, in a net gain of wetlands.

Our industry is encouraged that efforts are being made to define "no net loss" nationally. The MOA, while not specifically defining "no net loss," assures cooperation between the two major administering agencies.

Our reservation concerning the MOA is that with increased participation of the Environmental Protection Agency, another layer of bureaucracy will be added to an already multi-layered permit process that takes 9 to 15 months to complete. Successful reclamation is best achieved under a consolidated permit process. It is our hope that the MOA will not result in slowing down an already complex permitting process, but that is doubtful judging from the EPA's involvment in other environmental permitting processes.

The Florida phosphate industry recommends that the permit process be combined and coordinated with the Corps continuing in its lead role, so that wetlands areas would benefit by their existing experience and knowledge which is considerable, and our industry could operate with a reasonable degree of certainty. If you, Mr. Chairman, and this subcommittee can accomplish that despite the MOA, wetlands, agriculture, and the American public would be the ultimate benefactors.

Mr. Chairman, with your permission I am submitting for the record a copy of my testimony, copies of wetlands reclamation awards earned by our industry, copies of letters of recognition mentioned prior, the photos you have before you and a statistical analysis of the Florida phosphate industry. I would also like to thank The Fertilizer Institute, the Florida Phosphate Council, IMC Fertilizer, and Agrico Mining company for their assistance in putting together this material.

Again, thank you Mr. Chairman and members of the subcommittee for the invitation to be here with you today. I would be please to respond to any questions you might have at the appropriate time.

Mr. Gary Hunt

March 13,1990

STATEMENT OF THE IRVINE COMPANY REGARDING CLEAN WATER ACT SECTION 404 WETLANDS PROTECTION AND RESTORATION POLICIES

INTRODUCTION

The following statement represents The Irvine Company's views regarding both the substance and spirit of Corps 404 wetlands regulation policies, particularly as embodied in the Corps/EPA Memorandum of Agreement adopted on February 7,1990.

Briefly stated, this MOA, and the regulatory thinking which it reflects, represents a significant departure from the policy and procedures set forth in existing Corps/EPA 404 regulations dealing with Section 404(b)(1) of the Clean Water Act. As we will outline below, the Corps/EPA MOA policies will not really protect wetlands values and will in fact impede progress toward the national goal of maintaining and restoring wetlands. The newly enacted Corps/EPA policies, will, in essence, "throw the baby out with the bath water." Perhaps even worse, the wetlands that will be "preserved" by these new policies will in many instances in southern California more closely resemble "bath water" than viable wetlands systems.

OVERVIEW

The Irvine Company has over the past thirty years undertaken the master planning and development of some of the nation's most innovative and comprehensively planned new communities. Given the scale of our landholdings and the nature of the resources on our lands, we have been extensively involved in environmental planning ranging from the creation of a 15,000 acre greenbelt in the Orange County coastal hills to a major wetland restoration program about to be undertaken in conjunction with the University of California Natural Reserve system. Due to our long term involvement in environmental planning, we are extremely concerned with the new policy directions set forth in the recently adopted Corps/EPA 404 MOA.

The Irvine Company fully supports the national goal of "no-net-loss" of wetlands. This policy represents a significant initiative by the federal government directed toward preserving, and enhancing, an important national asset. However, we strongly believe that present Corps/EPA policies, most recently embodied in the Corps/EPA MOA, will not assist in the accomplishment of the "no-net-loss" goal and will, in practice, be counter-productive.

Our concerns are twofold. First, several of the provisions of the MOA are a significant departure from the Corps 404 regulations and Section 404/NEPA case law, particularly regarding the treatment of compensatory mitigation. Second, the MOA's assertion of "avoidance" as the primary environmental review criterion effectively undercuts the Corps' ability to assess overall wetlands benefits proposed by individual projects. In a fundamental sense, the MOA dramatizes the degree to which the Corps/EPA 404 regulations themselves have been contorted over time into an unmanageable quagmire of bureaucratic obstacles to meaningful wetland restoration undertakings that can and should be funded through development project mitigation programs.

In our view, the 404 permit process should require the Corps to reflect the following wetlands considerations in its review process:

- Not all wetlands are equally valuable to an ecosystem; some wetlands are severely degraded in their present state and are not capable of being preserved in a way that will maintain significant habitat values.

- Enhancement, or restoration of existing wetlands or creation of new ones can and should be strongly encouraged as valuable forms of compensation for development impacts.

- The emphasis on "avoidance" as the primary policy objective should be balanced with a stronger emphasis on comparing "the net wetland benefits" of a project's wetland mitigation program with the habitat values that will result from a rigid adherence to avoidance. Otherwise, avoidance policies may lead to the "preservation" of isolated remnants of wetlands systems with minimal habitat value.

Although the concept of "overall environmental benefit" is explicitly provided for in the EPA 404 regulations 404 review processes, and in particular the new Corps/EPA MOA, effectively preclude such considerations.

By inhibiting the consideration of "overall environmental benefit," the MOA forecloses an important opportunity to harness the resources and energies of the development industry in pursuit of environmental enhancement. State and local governments have increasingly recognized that public policy is best served when regulatory efforts are directed toward managing the process so as to permit planned development in a way which preserves and enhances environmental values and minimizes adverse impacts.

In many instances, private sector resources have contributed significantly toward environmental objectives when the process provides incentives to the development industry to reconcile conflicts between growth and environmental protection. For example, The Irvine Company is sponsoring a major enhancement project in the San Joaquin Marsh wetlands in conjunction with the University of California, the California Department of Fish and Game, and the U. S. Fish and Wildlife Service. This much-heralded effort could be inhibited or even precluded under the language of the draft MOA.

In our view, the present Corps/EPA policies as embodied in the MOA, create regulatory hurdles rather than incentives for wetland enhancement and restoration. The MOA's approach of "sequencing" decisions, with avoidance as the first step in the sequence, prevents considerations of overall wetlands benefits. Instead of emphasizing wetland restoration as a twin goal along with preservation, the Corps/EPA MOA treats wetland mitigation programs as a "deviation" from the proper sequence of decision-making.

Given the almost boundless discretion enjoyed by the regulatory agencies in determining whether an applicant has a "practicable alternative," it seems certain that the MOA will result in wholesale permit denial or at best, studies and delays as an endless array of alternatives is reviewed. Permit denials and delays will not achieve "no-net-loss." They will, however, add significantly to the cost of housing.

SPECIFIC ISSUES

The following are our specific concerns with the current Corps/EPA wetlands policies as presented in the Corps/EPA MOA:

(A) The MOA Changes Existing EPA Regulations and Reduces Incentives to Protect and Restore the Nation's Wetlands

About 75 percent of the nation's existing wetlands are in private ownership. The MOA substantially reduces the incentive for private landowners and others, including local and state governments, to implement effective wetlands management programs. By reducing and eliminating incentives for landowners to protect and restore wetlands, the MOA could constitute a real threat to the President's "no-net-loss" wetland policy. Recent claims that the MOA does not represent a change to existing Regulations are not true. The following sections outlines several key changes to or omissions of existing EPA Regulations that are major flaws in the MOA

(B) The MOA "Sequencing" Process and Related Provisions Conflict with Existing EPA Regulations

The Corps/EPA MOA creates a sequence of regulatory hurdles through which an applicant must pass: (1) "avoidance" of impacts so long as any "practicable" alternative to a wetland impact exists; (2) "minimization" of impacts if total avoidance is not practicable; and (3) "compensation" by means of mitigation programs for any remaining impacts that occur after an applicant survives the "avoidance" and "minimization" tests. In contrast, the EPA regulations (as opposed to the Corps/EPA MOA) describe "sequencing" as an analytic process for assembling information rather than a decision-making process. This is a critical distinction because, under the approach described in the EPA 404 each of the regulatory tests is to be examined in an overall context to determine what is most appropriate for wetland protection.

(C) Avoidance Should Not be Exalted Over Other Policy Objectives Such as Restoration.

"Sequencing" as used under the Corps/EPA MOA exalts "avoidance" over all other approaches, including compensatory mitigation such as the San Joaquin Marsh program. Although avoidance is a high priority under the EPA regulations, it should not be used as the initial hurdle which an applicant has to clear before other approaches can be considered. If the Corps/EPA are precluded from examining a total wetlands mitigation program, we could end up with the "preservation" of isolated wetlands surrounded by development rather than more beneficial wetlands consolidation approaches (i.e., since the Corps 404 jurisdiction general does not extend beyond the physical areas affecting wetland protection, the Corps is unable to regulate development in areas surrounding wetlands).

(B) Net Overall Environmental Benefit Should be the Central Policy Criterion.

The Corps/EPA MOA does not recognize the concept of "net overall environmental benefit" as a central feature of standard Section 404 decision-making (net environmental benefit can be considered only where the Corps and EPA jointly decide to "deviate" from the normal "sequence" of decision-making). In contrast, the EPA regulations specifically recognize the concept of "net environmental benefit:"

> Minimization of adverse impacts on populations of plants and animals can be achieved by:
>
> > Using planning and construction practices to institute habitat development and restoration to produce a new or modified environmental state of higher ecological value by displacement of some or all of the existing environmental characteristics. Habitat development and restoration techniques can be used to minimize adverse impacts and to compensate for destroyed habitat.
> >
> > (40 CFR 230.75(d), emphasis added)

The MOA limits consideration of overall net benefits to those cases where the Corps and EPA jointly agree to "deviate" from the three step sequencing process.

(E) The MOA Relegates "Restoration" to a Minor Role

The existing EPA Regulations present wetland restoration and preservation as having equal stature. The MOA clearly relegates restoration to a third level function, to be considered only after all impacts are avoided/minimized. In many areas, particularly urban areas and the Southwest, effective progress toward the "no-net-loss" goal for wetlands requires aggressive wetland enhancement and restoration programs. Restoration efforts usually focus on consolidating scattered wetlands, revegetating degraded areas and improving water supply and quality. There is no incentive in the MOA for such efforts to proceed and, on a practical level, the MOA effectively discourages such enhancement/restoration programs.

(F) Section 404 Wetlands Policies Must Provide for the Consideration of Regional Factors in the Choice of Wetlands Policy for Specific Sites.

The Corps/EPA MOA does not provide explicitly for a consideration of regional factors such as climate, geography and current wetlands conditions despite the fact that the EPA regulation cited above clearly indicates that ecological "values" are the central consideration in minimization/compensatory mitigation. Corps/EPA policy should be required to give explicit consideration to "regional factors" in weighing avoidance versus minimization/compensatory mitigation in specific permit situations.

(G) The MOA Discourages Offsite Mitigation

The existing Corps 404 regulations address mitigation in terms of what is best for wetland protection/restoration and do not differentiate between onsite and offsite alternatives. Contrary to the Corps 404 regulations, the Corps/EPA MOA specifically declares a preference for onsite mitigation. As previously noted, this bias could lead to the preservation of isolated wetlands in situations where greater overall habitat values could be achieved through consolidation and other regional management approaches.

RECOMMENDATIONS

We would like to make the following recommendations for consideration by the Congress:

(1) The Corps/EPA MOA should be rescinded. The Corps and EPA should be directed, by legislation if necessary, to prepare a new MOA emphasizing: (a) "restoration" of wetlands should be treated as a policy objective with a status equal to "avoidance/preservation;" and (b) the concept of "overall net wetlands benefit" should be the central criterion for Corps 404 permits.

(2) EPA should not be granted the authority, as presently provided in the MOA, to determine the substantive criteria for reviewing projects totally independent of and contrary to the present 404 regulations.

(3) The 404 permit review process should be structured to provide for the use of compensatory mitigation as an alternative to avoidance without the "sequencing" requirement.

(4) A national policy, perhaps embodied in legislation, should be adopted to encourage the creation of wetland mitigation banks to promote comprehensive wetlands protection and enhancement instead of piece meal avoidance of wetlands areas regardless of their quality and environmental value.

(5) Differences in regional climatic and habitat conditions require different criteria for determining what is a wetland and what habitat obujectives should be pursued in administering the 404 program. The present use of a uniform nationwide wetland delineation program should be discontinued in favor of a regional approach reflecting the foregoing factors.

(6) The present multiple agency approach with conflicting policies and authority (i.e. the Corps, EPA and USFWS) should be eliminated and replaced with a program comparable to the Coastal Zone Management Act which will lead to state certification and administration of the program.

(7) Wetlands should be categorized according to value and the degree of regulation should vary according to that value. Marginal wetlands should not be subject to the same level of review as pristine wetland areas.

CONCLUSION

In conclusion, we are convinced that a permitting system which takes into account wetlands' functional values and compensatory mitigation, (both on-site and off-site) as part of a flexible solution to reduce environmental impacts, is far more likely to achieve overall gains in wetland habitat values than will the permit denials inevitably resulting from the procedures contemplated under the MOA. This is particularly true in Southern California where much of the existing habitat is fragile and fragmented and is best preserved by consolidating it with other habitat into viable, larger scale habitat areas dedicated for public ownership.

We believe that creating new wetlands and enhancing functional values of existing ones can, if managed as part of the overall development and resources management process, help achieve no-net-loss of wetlands functions and make a positive contribution to both the environment and development.

We and others in the planned community development industry feel we have much to offer. We strongly urge that the nation's wetlands policies provide incentives for restoration rather than obstacles.

TESTIMONY OF DR. RALPH MORGENWECK, ASSISTANT DIRECTOR FOR FISH AND WILDLIFE ENHANCEMENT, U.S. FISH AND WILDLIFE SERVICE, DEPARTMENT OF THE INTERIOR, BEFORE THE SUBCOMMITTEE ON WATER RESOURCES, COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION, U.S. HOUSE OF REPRESENTATIVES, REGARDING WETLANDS CONSERVATION

March 13, 1990

Mr. Chairman, thank you for this opportunity to discuss the wetland conservation activities of the U.S. Fish and Wildlife Service. As you have requested, I will address our role in wetlands identification and protection, as well as the recommendations of the National Wetlands Policy Forum for Federal wetlands legislation. In addition, I will discuss the Service's programs in the areas of wetlands management, enhancement, and restoration, with an emphasis on those topics of concern raised during your previous hearings.

First, I would like to identify the status of wetlands resources in our Nation, based on data the Service has been collecting and analyzing through the National Wetlands Inventory and its precursors, since 1974. Our studies have documented enormous losses in wetlands since Eurpean settlement of the United States. I will also highlight some of the actions the Service and the Department of the Interior have taken to stem and, ultimately, to reverse these losses -- through wetlands protection, management, restoration, and enhancement. Frequently these actions have involved cooperative efforts with other federal, state, local and private agencies and organizations that provide increased staff and funding resources for these efforts.

The Service has not acted alone in these efforts. As the chief steward of our Nation's natural resources, the Department of the Interior manages over 500 million acres of land and has the responsibility for managing and protecting the wetlands these lands contain. The Service has been working with other bureaus within Interior, such as the Bureau of Reclamation and the Bureau of Land Management, in establishing effective and innovative programs of wetlands protection and restoration.

The Service is also very active in working with Federal agencies outside the Department of Interior in providing information and expertise on wetlands and on the many fish and wildlife species that depend on them for survival. We play an important role in the Section 404 permitting process, and have worked closely with the Environmental Protection Agency (EPA) and the Army Corps of Engineers (Corps) in wetlands identification, assessment, mitigation, enforcement and in planning processes such as EPA's program for advance identification of wetlands.

Finally, the Department of the Interior is an active participant in the Wetlands Task Force established by the Domestic Policy Council, and the Service, as the lead agency within the Department of the Interior on wetlands issues, has a major role in providing technical support for the Department's multi-bureau initiative in the Task Force.

WETLAND LOSSES

Wetlands are among the most biologically diverse and productive habitats. The effects of wetland losses in the United States that have concerned natural resource professionals for several decades have now generated general public concern. The statistics for the lower 48 States show the following historical loss: over 53 percent of the 226 million acres of wetlands we believe existed in the contiguous U.S. at the time of European settlement have been lost. In contrast, in Alaska, less than 2% of the State's wetlands have been lost.

The impacts associated with losing over 116 million acres of our original wetland acreage are now evident in terms of reduced wildlife populations, poor water quality, reduced natural flood storage capacity, increased flooding, decreased soil moisture, lower ground water tables, and more frequent and severe drought conditions. To be sure, these problems are caused by a variety of factors. However, wetland losses have contributed directly to each of these problems. We are now beginning to understand that replacing many of the functions formerly provided gratis by nature is a difficult and expensive proposition.

Based on wetland status and trends data produced through the Service's National Wetlands Inventory, the Nation experienced a net loss of nine million acres of wetlands between the mid-1950's and mid-1970's. Based on the 1974 data, wetland losses are estimated to be as high as 450,000 acres annually. However, the Service is in the process of updating its wetlands inventory for a more current figure. By far the most important economic sector that has impacted wetlands is the agricultural community. Based on the 1974 data, agricultural development accounted for 87 percent of wetland conversions, urban development for eight percent, and other development for only five percent of the losses. Today, based upon that same data base, we estimate that only about five percent of the land surface of the lower 48 states is wetlands. Updated information on the status and trends of wetlands will be available by September of this year. This report, currently under preparation, is of great importance since it will provide a measure of how well existing programs and regulations protected wetland resources in the period from 1974-1984.

Central to any discussion of the future of wetland conservation is the fact that an estimated 74 percent of the remaining wetlands in the continental United States are privately owned. Public ownership of all wetlands is neither feasible, desirable, nor appropriate. Thus, solutions to wetland conservation issues depend to a great extent on private stewardship. The Service and the Department of the Interior are active in involving private landowners in wetlands conservation and continue to seek new partnerships with in private sector in wetlands protection.

THE FEDERAL ROLE IN WETLAND LOSSES

As highlighted in the Secretary of the Interior's December 1988 report to Congress on "The Impact of Federal Programs on Wetlands," the Federal Government needs to accept its share of the responsibility for many of these losses up to this point in time. In 1978, an Executive Order was issued to focus agencies' attention on wetlands protection. However, this effort did not solve inconsistencies in Federal Programs regarding wetland conservation. As a result, many of these programs have not fully considered the functions and values of wetlands. Programs still exist which encourage wetland drainage and conversion.

The Department fully supports the national goal of no-net-loss of wetlands as enunciated by President Bush. As a Nation and as a government, we can achieve the balance that would be required by this goal. As a major land managing agency, the Department is looking at opportunities to cut our losses and increase our gains.

SERVICE WETLAND ACTIVITIES

The Service has a long history of wetlands management, protection and restoration. As evidence of this commitment, I offer the following examples of current activities, nearly all of which fall into three general areas that assist in supporting the national goal of no net loss of wetlands: (1) wetlands protection; (2) wetland restoration, enhancement and management activities; (3) wetlands information and education.

Wetlands Protection

Permit Review -- The Service is one of the primary advisors to the Corps of Engineers and the Environmental Protection Agency on matters relating to the Clean Water Act's Section 404 permit program. The 404 program regulates the discharge of fill material into waters of the U.S. The Service reviews over 11,000 individual public notices each year. In this review capacity, we serve as environmental consultants to the regulatory agencies -- advising them on the values of the affected wetlands, the impacts of the proposed projects on fish and wildlife, and the appropriate ways to mitigate the damage to wetlands. The Service also provides technical assistance to EPA and the Corps on wetland jurisdictional determinations and enforcement actions.

Impact of Federal Programs on Wetlands -- The Service has been involved in assessing the issue of wetland losses resulting from government programs. The Service has been working with the Department's Office of Program Analysis to prepare reports to Congress, as required by the 1986 Emergency Wetlands Resources Act. These reports address this issue and include recommendations for making these programs more compatible with wetlands protection.

The Secretary of the Interior submitted volume I to Congress on December 13, 1988. This report addressed wetlands losses due to Federal programs in the Lower Mississippi Alluvial Plain and Prairie Pothole Region. A summary of the recommendations contained in this report is appended to my statement. Volume II, which addresses other problem areas throughout the United States, is undergoing agency review prior to submission to Congress.

Water Projects -- The Service also provides technical assistance to the Corps and Bureau of Reclamation on Federal water projects. In this role, the Service assesses the effects of various development projects on fish and wildlife resources and recommends measures to protect those resources. Wetlands have been a central focus of this effort.

Provisions of the 1986 Water Resources Development Act regarding protection, mitigation, and enhancement of wetlands associated with civil works projects increase our role as technical advisors to the Corps. These provisions were some of the most progressive legislative steps ever taken for wetland conservation and were highlighted by President Bush in his February 9 budget plan. The Service will work with the Corps to implement these conservation measures to achieve wetland creation and restoration throughout the United States.

Agricultural Wetland Protection and Restoration (Farm Bill) -- The Service is actively working with the Department of Agriculture (USDA) and American farmers through our Farm Bill program. The Service provides technical assistance to USDA and to farmers regarding wetlands restoration. Restoring wetlands that have been converted to agricultural use is often cost-effective and highly successful compared to other types of wetland restoration. It also addresses many contemporary conservation issues, including soil erosion, surface and ground water quality, stabilization of both flood and drought cycles, and enhancement of fish and wildlife habitat, as well as recreation.

USDA consults with the Service on matters relating to wetland identification, exemptions, and the issuance of regulations to implement the Swampbuster provision of the 1985 Food Security Act. Through a Memorandum of Understanding, the Service provides technical assistance to the Farmers Home Administration by identifying environmental resources such as wetlands on inventory land, recommending protective measures for such areas, serving as wetland easement managers, participating on review teams for conservation easements in exchange for debt forgiveness, and reviewing loan applications.

Endangered Species -- More than one-third of the nation's threatened and endangered plant species and one-half of the animal species are wetland-dependent. Protection of wetlands habitat will help to preserve listed and enhance unlisted wetland-dependent species. In our efforts to protect and recover threatened and endangered species, the Service has been focusing acquisition efforts on acquired wetland habitats critical to their survival.

International Treaties -- The Service has primary responsibility for implementing a number of international treaties and conventions dealing with conservation of migratory birds. The Service is the lead agency representing the U.S. under the Convention on Wetlands of International Importance (RAMSAR) and, since the beginning of the program, has nominated seven sites for designation as wetlands of international importance including the Everglades of Florida.

Wetlands Restoration, Enhancement and Management

Farm Bill -- The Service provides technical assistance to farmers in direct support of wetlands protection and restoration projects on three categories of lands: Farmers Home Administration lands and lands secured under FmHA programs; lands enrolled in the Conservation Reserve Program (CRP), and privately owned agricultural lands.

Since 1987, the Service has restored the hydrology to 54,380 acres of wetlands. In 1989 alone, the Service restored the hydrology to 36,715 acres of wetlands on 2,766 different sites. Of the wetlands restored in 1989, 350 of these sites, accounting for 5,126 acres of restored wetlands, are on Farmers Home Administration lands; 1,947 sites, accounting for 10,939 acres of restored wetlands, are on lands enrolled in the CRP; and 469 sites, accounting for 20,650 acres of restored wetlands, are on privately owned farmland not enrolled in the CRP.

In addition to the acres of wetland hydrology restored in 1989, wetland enhancement conducted primarily through the establishment of conservation easements under the FmHA activity resulted in the protection and enhancement of 70,232 acres of wetlands and associated upland buffer areas on 461 separate sites. The Service has recommended the protection and enhancement of an additional 184,791 acres of wetlands and associated upland buffer areas on 1,285 separate sites on FmHA lands through the establishment of conservation easements. As of 1990, these wetland areas are pending final action by FmHA.

Conservation easements established by FmHA are managed by our Refuge Division. Currently, 761 separate sites consisting of 75,358 acres of restored wetlands, and wetlands with associated buffer areas enhanced under protective covenants, are being administered by the Service as a direct result of the FmHA activity. By the end of 1991, the Service estimates that a total of 2,000 separate sites accounting for approximately 260,000 acres will be under the purview of the Service as a direct result of the FmHA conservation easement program.

Coastal Barrier Resources System -- The Department of the Interior transmitted its Report to Congress on the Coastal Barrier Resources System (System) during January 1989. This report is based on a statutory requirement contained in section 10 of the Coastal Barrier Resources Act (CBRA). In addition, the Department is finalizing maps which identify undeveloped coastal barrier areas along the shoreline of the Great Lakes states which would qualify for inclusion in the System. In adopting CBRA, Congress defined three major objectives, including the goal of minimizing the damage to fish, wildlife, and other natural resource along the Atlantic and Gulf coastlines.

Federal Grants -- The Service administers Federal Aid funding to the States and territories for sport fish and wildlife restoration activities that include many wetland conservation elements. Between 1985-1987, this assistance added over 15,050 acres of priority wetlands to the 12 million acres currently in State ownership throughout the Country.

North American Waterfowl Management Plan -- The Service is implementing the North American Waterfowl Management Plan, an agreement signed by Canada and the United States, that relies on wetland habitat protection, restoration, and enhancement to restore the continent's waterfowl populations to the numbers that had occurred in the early 1970's. Drought and the draining of low-lying land for agriculture and other development contributed to a drop in the continent's fall flight of waterfowl from 80 to 100 million ducks during 1970-79 to a record low of 62 million in 1985. The 1988 fall flight was only 66 million.

Major components of the Plan include: (1) establishment of population goals for ducks, geese and swans to be met by the year 2000 and of habitat protection goals for the U.S. and Canada; (2) recommended joint ventures between private and public entities to attain these goals; (3) research and development of surveys and data bases; and (4) listing of approaches to protect and manage wetlands. This Plan has targeted more than five million acres of key waterfowl habitat for protection in the U.S. and Canada through critical areas, providing incentives to private owners for restoration of wetlands, and improving habitat on existing wildlife refuges, military bases, and other public lands.

During January of this year, an agreement was signed between the Service and the Department of the Army to conserve and improve wetlands on more than 9 million acres managed by the Army Corps of Engineers. The properties include wetlands in navigation and flood control projects, many of which are important waterfowl habitat.

Land Acquisition/National Wetlands Priority Conservation Plan -- The Service has a continuing land acquisition program that is authorized by the Migratory Bird Conservation Act, Endangered Species Act, Fish and Wildlife Act of 1956, Recreation Use Act of 1962, Emergency Wetlands Resources Act and Fish and Wildlife Coordination Act. Funding for land acquisition is authorized by the Migratory Bird Hunting and Conservation Stamp Act (also known as the Duck Stamp Act), Wetlands Loan Act, and Land and Water Conservation Fund Act (LWCF). Revenues from the sale of duck stamps are used to acquire additional wetlands for the National Wildlife Refuge System.

North American Wetlands Conservation Act -- The Act was signed into law by President Bush on December 13, 1989, culminating an impressive display of unity between the Administration and Congress in the interest of wildlife conservation. The Act has provided a major boost to the Service's ongoing efforts in wetland protection, restoration, and enhancement through increased funding for partnerships with the states and the private sector.

The Service will expand acquisition of critical wetland habitats and wetland restoration and enhancement activities under the North American Waterfowl Management Plan, farm bill, and partnerships with private land owners. Towards that end, the President's FY 1991 Budget has proposed that $15 million be appropriated to implement this statute together with revenue based on interest from the Service's Wildlife Restoration Fund and fines for violations of migratory bird regulations. In addition, the Canadian Government has pledged $35 million over the next five years to support these activities.

The North American Wetlands Conservation Council created by the Act will include members from state fish and wildlife agencies, the Fish and Wildlife Foundation, and charitable non-profit conservation organizations. The Council appointed by Secretary Lujan on February 21, 1990 will recommend wetlands conservation projects to the Migratory Bird Conservation Commission which is charged with overseeing expenditure of funds made available under the Act.

The Act also directs Federal agencies that have responsibilities for acquiring, managing, or disposing of Federal lands and waters to cooperate with the Service to protect, restore, and enhance their wetland habitats.

National Wetlands Priority Conservation Plan -- In 1989, as directed by the 1986 Emergency Wetlands Resources Act, we completed the National Wetlands Priority Conservation Plan, which provides general direction and guidance from the national level that can be used to identify wetlands that should have priority for acquisition.

National Wildlife Refuge System -- The Service manages over 34 million acres of wetlands in our refuge system, of which 5 million acres is in the coterminous U.S. These areas were established principally for the protection of migratory birds and endangered and threatened species. The Service has been in the wetland restoration and management business for many years on our refuges. The efforts which we have undertaken would be applicable on a broader scale to development of a national wetlands restoration program.

The Service is proud of its efforts in the areas of wetlands research, information and education, wetlands protection, and wetlands restoration enhancement and management.

Research, Information and Education Activities

Research Activities -- The Service maintains a National Wetlands Research Center in Slidell, Louisiana, to study and report on wetlands. Wetlands or wetland-related research also occurs at the Service's research facilities located in Northern Prairie, North Dakota; Fort Collins, Colorado; and Patuxent, Maryland. The Service also has 41 cooperative research units at major State universities nationwide, addressing important issues in wetlands ecology and management. Research covers a broad range of wetland issues, including Louisiana coastal wetland loss studies, development of restoration methods, geographic information system development, waterfowl research, and coastal barrier island assessment.

Information Activities -- The Service's National Wetlands Inventory, migratory bird surveys and wetlands research centers nationwide support and enhance wetlands conservation efforts through the development and distribution of wetlands data. Perhaps the best known of the Service's efforts in developing information on wetland resources is the National Wetlands Inventory. The Service, in cooperation with State and Federal agencies, is mapping our wetland resources nationally. Approximately 61 percent of the lower 48 states, 18 percent of Alaska, and all of Hawaii have been mapped since 1979. The lower 48 states will be completely mapped by 1998 and Alaska will be completed as soon as practicable thereafter.

In 1983, the Service completed the first comprehensive and statistically valid estimate of the current national wetland acreage and the rate of wetland loss from the 1950's to the 1970's. Information from this status and trends report has been widely used in a number of major wetland reports, including the Conservation Foundation's National Wetlands Policy Forum Report. As mentioned previously, the Service is on schedule regarding the status and trends report due for completion this year and every 10 years thereafter. The Service has analyzed data for 99 percent of the 3,631 wetland sample plots needed to complete the status and trends report.

In addition, the April 30, 1990 report to Congress, as required by a 1989 amendment to the Emergency Wetlands Resources Act, will be completed on schedule. This report will provide a state-by-state estimation of wetlands losses over the past 200 years. This report represents the best and most complete data available on the status and trends of America's wetlands and is critical for this Nation's efforts to direct policies and programs toward a national goal of no-net-loss of wetlands.

An area of particular concern in the Service's information and management activities is contaminant analysis. Over 90 percent of the Service's environmental contaminant work deals with wetlands. Our work centers on determining the potential for harm to fish and wildlife species from contaminants that have assimilated into wetlands. Non-point sources such as agricultural and urban runoff, mine waste leaching, and pesticide use, as well as irrigation drainage are major concerns. The major contaminants that appear to be problems are heavy metals, industrial pollutants, and agricultural chemicals. An Environmental Protection Agency study estimates that over 90 percent of superfund sites are contained in, adjacent to, drain into, or slope toward wetlands.

Educational Programs -- The Service and the Department believe that educational programs will be essential to reach our goal of no net loss of wetland resources. Public awareness of wetland values and public support for wetlands conservation are critical. We have several programs, many in partnership with local communities, that emphasize public education about wetland values.

For example: twenty-three state-run locations across the country distribute maps developed by the National Wetlands Inventory; the Service's 41 cooperative research units work with the Nation's universities in education as well as research; we have cooperated with the Environmental Protection Agency to develop brochures and pamphlets that inform the public about wetland values; interpretive programs are conducted in our visitor centers and refuges; and a video developed through the Service's Farm Bill program, which informs farmers about wetland values, has been adapted for media use.

Wetlands Identification

The Service has a central role in wetlands identification and mapping nationwide through the National Wetlands Inventory. Reflecting the importance and impact of this program is the fact that we anticipate the distribution of our millionth National Wetlands Inventory map in May of this year. These maps, while not designed for regulatory use, are valuable tools for making initial decisions regarding project plans and land use. The Service has also developed and published, with the assistance of other Federal agencies, State agencies, and private organizations, a classification system for wetlands and deepwater habitats of the United States. This classification is used by the National Wetland Inventory to identify and classify wetland sites and provides a flexible and widely accepted nomenclature for describing wetlands.

In addition to mapping wetlands, the Service has been instrumental in developing field techniques for identifying and delineating jurisdictional wetlands subject to some form of Federal regulation or protection. On January 10, 1989, the Service, EPA, Corps, and SCS signed a joint "Federal Manual for Identifying and Delineating Jurisdictional Wetlands." The Manual reconciled interagency differences in technically identifying wetlands and will lead to more uniform, consistent and rapid wetland delineations.

Since the completion and implementation of the Manual, the issue has been raised as to whether its application has resulted in a new and expanded definition of wetlands. The purpose is to eliminate the confusion created by different Federal agencies using different methods of delineating wetlands. It is a technical procedures document based on previously established methods used to determine what are and are not wetlands.

The Manual does not establish new policies nor does it expand the definition of wetlands. Rather, it establishes mandatory technical criteria and recommends methods that the four agencies should use for identifying and delineating wetlands for jurisdictional programs. The results of wetland determinations made using the Manual are then used in applicable Federal programs within the framework of applicable policies and regulations.

Although the Manual did not change the definition of a wetland, there may be some instances where wetland determinations differ from those made in the past. This is because the agencies are now consistently using the procedures set forth in the Manual, whereas in the past they applied a variety of procedures. Once an area is determined to be a wetland, it is up to the Federal regulatory agencies to determine how the results of the wetlands determinations will be used within the framework of the applicable laws, regulations and policies.

In addition to its role in the development and use of the Manual, the Service developed and maintains, in cooperation with other Federal agencies, the national wetlands plants data base. This data base is critical for the determination of wetland boundaries using the Manual. By virtue of its many Regional and field offices, refuges and research facilities located throughout the United States, the Service has a presence and the expertise in the field that other agencies often depend on for identifying and delineating wetlands.

A Flexible Approach

Flexibility is a key element for implementation of the Department's and the Service's wetlands programs to achieve better wetlands protection and to assit in achieving the national goal of no-net-loss. New programs and policies are evolving through the leadership of the Department of the Interior and the Wetlands Task Force of the Domestic Policy Council. Many Federal, State, local and private organizations are moving forward with more aggressive strategies for wetlands protection. The Service will continue to be responsive to new opportunities to reach our goals.

Plans for Wetlands Protection

A few examples of current strategies the Service has developed for more effective wetlands protection include:

- Participate in regulatory programs that protect wetlands including section 404 and section 402 Clean Water Act permits, section 10 River and Harbor Act permits, and the Food Security Act's Swampbuster provisions. This includes Service involvement in EPA and the Corps' advance identification of wetlands under Section 404 of the Clean Water Act.

- Take steps to more effectively protect wetlands on Service lands from loss and degradation (37% of the National Wildlife Refuge System is wetlands).

- Provide Federal Aid for State Wetlands acquisitions. To date, this program has resulted in State acquisition of 2 million acres of wetlands.

- Using the authorities of the Endangered Species Act, including the critical habitat designation process, to protect wetlands upon which listed species depend, and through Recovery Plans, enhance, restore and protect such wetland habitats.

- Expanding the network of technical expertise on land management techniques in order to help other agencies, States, and local governments preserve and protect wetlands.

Examples of future strategies include:

- Under the Farm Bill, encourage landowners to enroll wetlands and highly erodible land into a restoration program such as the Conservation Reserve Program.

- Provide technical assistance and financial incentives to private landowners to protect privately owned wetlands.

- Increase technical and management assistance to Native Americans and territories for the protection of wetlands.

To assist in achieving more effective wetlands protection, the President's FY 91 budget has proposed significant increases in funding for wetlands, and I have appended a copy of that proposal to my testimony.

Forum Legislative Recommendations

The Service recognizes the National Wetlands Policy Forum Report as an independent, balanced and practical appraisal of the status of the public wetland conservation policy. Contained in the Forum Report were over one hundred specific recommendations for achieving the goal of no overall net loss of the nation's wetlands base and a long term goal to increase the quantity and quality of the nation's wetlands resource base. The Service and the Department of the Interior share in the overall intent of these goals and we have programs and policies already in place to achieve a number of them.

For example, the Forum Report identified broad steps that can be taken to reduce wetland losses. These include better incentives to private wetlands owners, expansion of acquisition and perservation programs, reduction in wetland losses from government programs, and even-handed and effective regulatory programs. The Department's FY 1991 budget initiative and the Service's current programs seek to reduce and reverse wetland losses in the same manner. The same can be said for the intent of the Forum's recommendations regarding wetlands protection, management, research and education. This should come as no surprise, based on the Service's long-standing commitment to wetlands conservation, and the participation of our Director, Mr. John Turner, then President of the Wyoming Senate, in the Wetlands Forum, and the leadership of Secretary Lujan to reinvigorate the stewardship mission of the Department with respect to our public lands.

Several of the recommendations contained in the Forum Report go beyond what can be addressed by any, one agency or group by new policies, programs or funding. These recommendations have the attention of the DPC Working Group.

Conclusion

As indicated throughout my testimony, the Department of the Interior and the Service strongly support the national goal of no-net-loss of wetlands. Achieving this goal can be accomplished through many channels, including increased efforts in current Federal wetlands programs, increased public/private partnerships, and efforts currently underway by the Domestic Policy Council's Wetlands Task Force to recommend amendments to Executive Order 11990 on Protection of Wetlands. In addition, many individual, non-legislative efforts are already underway within the Service and elsewhere to reach that goal.

Finally, regarding the delegation of Federal wetland regulations to the States, the Service believes that the Federal government must maintain a role in the protection of Federal trust resources such as migratory birds, anadromous fish, and endangered and threatened species. We have worked closely with the Environmental Protection Agency in the development of the current 404 program delegation regulations to ensure that they provide mechanisms to adequately address these issues.

Mr. Chairman, this concludes my remarks, and I will be happy to respond to any questions you may have.

TESTIMONY OF:

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BEFORE THE HOUSE WATER RESOURCES SUBCOMMITTEE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION

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Mr. Chairman and members of the Subcommittee, thank you for this opportunity to speak today on this very important topic. In January, 1989, I and a group of other wetland resource professionals left federal service and formed the Wetland Training Institute, an organization whose purpose is to provide both the public and private sector with water resource training and reference tools. For fourteen years prior to that date I was employed by the Corps of Engineers; the last seven of which in the Regulatory Branch at Corps headquarters.

While with the Corps I was a member of the committee which wrote the 404(b)(1) Guidelines, Chaired the Corps committee which wrote the Guidelines' testing protocol (the draft of which EPA published in the Federal Register in 1980 and has never finalized), was principal technical monitor for the Wetlands Research Program and two research programs dealing with contaminated dredged material, was proponent for two wetland training courses, routinely taught in two other courses on regulatory policy, and was one of the three Corps representatives on the committee which developed the Manual for Identifying and Delineating Jurisdictional Wetlands.

During the last year, I have taught wetland delineation and policy to more than one thousand individuals from across the country. I have seen the wide variety of areas that technically qualify as wetlands and have experienced firsthand the frustrations that citizens experience trying to comply with the Section 404 requirements.

Let me state at the beginning that I like wetlands. Many of them are valuable, natural resources, serving important ecological functions, with high societal values and should be conserved. In fact it is generally recognized that wetlands can serve a dozen or more different functions. The Wetland Evaluation Technique endorsed by many of the federal agencies evaluates the following functions:

- Ground Water Recharge
- Ground Water Discharge
- Wildlife Diversity/Abundance
- Aquatic Diversity/Abundance
- Sediment/Toxicant Retention
- Nutrient Removal/Transformation
- Production Export
- Floodflow Alteration
- Sediment Stabilization
- Recreation
- Uniqueness/Heritage

Two facts are noteworthy about this list. First, few if any individual wetlands serve all of these functions. Second, many nonwetlands have been demonstrated to serve the same functions. In fact with the exception of "aquatic diversity/abundance" and for some species "wildlife diversity/abundance," nonwetlands in many cases perform these functions as well or better than wetlands. In short the range in overall value of wetlands is just as great as the range in value of uplands.

Generally, we can place wetlands into one of two categories: those which function in ways different than uplands or which perform certain functions better than uplands; and, those areas which technically qualify as wetlands but whose functions and the value to society of those functions are substantively the same as similar nonwetland systems.

Typically, wetlands that are contiguous with or directly connected to open waters and those isolated wetlands that predictably have standing water in them for a substantial part of the growing season fall into the first category. These are the wetlands that the layman recognizes and the ones that are depicted on television when an emotional plea is made to the public to help preserve wetlands. They are the mangrove swamps and Spartina marshes on the coast which are vital to maintaining a healthy fisheries. They are the bottomland hardwood swamps and prairie potholes that are valuable wildlife resources.

They are NOT the wet depressions in cornfields or the winter-wet woods which because they have tight soils and/or a high groundwater table early in the spring technically qualify as wetlands. These areas fall into the second category. For example, a beech forest on the Delmarva Peninsula may be underlain by a mosaic of hydric and nonhydric soils. Groundwater typically is near the surface (though may never reach the surface) during the winter and first few weeks of spring. Once the trees leaf-out and begin pumping water, the water table may drop to five or more feet below the surface and remain there during the rest of the growing season. The portions of that forest growing on hydric soils qualify as wetlands, the remainder of it does not.

Our beech forest may be of very high value for some functions (notably wildlife and aesthetics), but the value is not derived from its "wetness," but rather from the fact that it is a forest. Perhaps forested land on the Peninsula should be conserved, but I don't believe it should be done through the back-door as a wetland. This superficial rationale for restricting private property rights through 404 regulation breeds contempt.

While many wetlands are important elements of our environment, so are nonwetlands. Forested hills and valleys, verdant meadows, mountains and deserts must also be wisely managed. We must conserve our prime agricultural lands. I even believe that man should "achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities" [PL 91-190, Sec 101. (b)(5)]. The essence of ecology (Gr. oiko(s) house) is to study the entire house.

As an ecologist I do not believe that "no overall net loss of wetlands" is an admirable goal that we as a country should try to achieve. Balance is necessary to maintain an ecologically sound environment. The concept of "no overall net loss of wetlands" sets aside the concept of balance and places one element of the natural ecosystem (wetlands) above all others. This is land management at its worst. It is MISMANAGEMENT. The 404 program as now implemented has become the number one land "management" program at any level of government in the United States!

What does no overall net loss of wetlands mean to the natural environment? It stands for a clear directive to avoid all wetlands at all cost regardless of the wetland value or the value of the alternative site to be impacted. It often represents the indiscriminate destruction of forests and farmlands since there is no federal and seldom any state oversight over areas that are not waters of the United States. Given the choice between subjecting oneself to the delay and abuse typical of the current 404 process or destroying a valuable upland forest, the logical person selects the latter. Further, because of the high percentage of hydric soils in many parts of the country, no net loss of wetlands can be achieved only if society is willing to severely limit further development in those areas. More often than not the people making the limiting decisions are far removed from the economic impact that they have on the local economy.

Understand also that the way the new delineation manual is being interpreted, any area that has hydric soils is likely to be considered a 404 wetland until hard data proves it otherwise. Even much of the prime agricultural land that was drained a 100 years ago retains the one week of saturation in February or March (the beginning of the growing season for much of the U.S.) necessary to qualify it as a wetland. Many of those millions of acres of wetlands that the studies have claimed were lost since European settlement still meet the technical criteria as wetlands and are, therefore, subject to 404 regulation.

Translated into real examples it is the Midwest highway department bisecting a large stand of virgin oak forest to avoid a cattail marsh. It is wholesale destruction of forests and prime farmlands to avoid building houses in wet depressions in cornfields. It is the lost opportunity to protect in perpetuity a large tract of bottomland hardwood forest in the heart of Memphis because preservation is an unacceptable form of mitigation for the loss of a monocultural thicket of green ash saplings. It is the loss of ten million dollars worth of ecological improvements and a nature education center in California because "sequencing" never allows you to consider mitigation. It is the absurd position that the excavation of wetlands by dragline does not need a permit but use of a bulldozer or front-end loader does. It is the prosecution of citizens for building homes on a disposal site that had received 20 years of dredged material.

There are other economic and human costs as well. The frustration level among both the regulated public and the regulators is high. It is not uncommon in the populated areas of the country for applicants to be placed on a waiting list for six months to a year before their application is even considered. Further frustration ensues when applicants are told to spend large sums of money evaluating alternatives and then designing and constructing mitigation for resources of acknowledged low value.

Within the government, there has never before been such a mass exodus of experienced civil servants from the Corps regulatory program. In my own case when I first began working in the Corps regulatory program in 1975, I sensed a true desire on the part of the regulators to try to help the public construct their projects with a minimum of environmental harm. Certainly the program was not perfect, but it was changing in a reasoned fashion. I left civil service in January 1989 in large part because of the frustration I was experiencing on two fronts. First, was a sense of total lack of control within the Corps because of the micromanagement of the program by the Environmental Protection Agency. If you make no other legislative changes, placing the program entirely in one agency would be a great benefit to the public. The current status of the 404 program bears out the fact that it is simply poor government to have one executive agency directing the actions of another.

My second frustration was a sense that the program no longer serves the public interest. Rather, it has continuously shifted its emphasis to the ecologically myopic objective of single resource preservation. As example, the recent Memorandum of Agreement (MOA) on mitigation between the Corps and EPA has completely changed the intent of the authors of the 404(b)(1) Guidelines regarding mitigation. As someone who was involved in writing the current Guidelines, I take strong exception to Mr. Barrows statement of February 27, 1990, before this subcommittee, that "The MOA does not contain requirements beyond those currently allowed by regulation, nor does it establish new basis for denying Section 404 permits." On the contrary, there are many aspects of the new MOA which either have no basis in regulation or are diametrically opposite to written directives on implementation of the program. One of many examples of policy-making in the MOA is the following:

> Appropriate and practicable compensatory mitigation is required for unavoidable adverse impacts which remain after all appropriate and practicable minimization has been required.

While Guideline citations are provided justifying avoidance and minimization, none is stated for the preceding quote. In my opinion there is no justification for it in the Guidelines nor did the authors intend to require compensation after all appropriate and practicable steps have been taken to avoid and minimize impacts.

Mr. Barrows stressed in his testimony that flexibility remains in the program. Again I must take issue. Even before the new MOA, flexibility in many parts of the country had been severely curtailed. The MOA can only serve to further constrain the latitude that once existed in the program. I suggest that you ask your constituents across the country how much flexibility is in the program.

The Corps used to pride itself on "customer care." In a recent letter to the Director of Civil Works, I suggested that the Corps conduct a survey of people who have had experience with the regulatory program. My impression is that most people today that have been involved in a 404 action would not characterize the Corps as a caring servant of the public.

Policy-making in the MOA is but the latest symptom of a program that has evolved by administrative fiat, not legislative direction. For 15 years I have listened to the battle rage over the "intent" of Section 404 of the Clean Water Act. I have heard individuals who claim to have been present during the debates state that it clearly was intended to protect wetlands. Others with equal claims have as emphatically stated that it only was intended to ensure that dredging and the construction of dams would not be hindered by EPA control. I have reached two conclusions about this debate. The first is that the "intent" was probably as varied as the number of members of Congress that voted on it. Second, that its authors were literary failures. The fact that such a debate arose in the first place and has been fueled for 15 years indicates that Section 404 does not convey any clear directive. I believe that had the same individuals been responsible for drafting the Constitution, the Nation would not have survived to celebrate its 200th birthday.

Unfortunately, it is not simply the authors who are culpable. The Clean Water Act has been amended numerous times since Section 404 was first enacted and on each occasion your predecessors have chosen to skirt the issues rather than to resolve them.

The entire history of federal wetland legislation has contributed to the confused state of affairs that exists today. More than a dozen federal laws exist which provide authority to a host of different agencies to acquire, manage, regulate or study some aspects of wetlands. There is no coordinating directive. Indeed as recently as 1985 when Congress through the "Swampbuster" provision of the Food Security Act chose to send the message to farmers that it would no longer subsidize wetland conversion under certain conditions, it made no mention whatsoever that the Corps and EPA had been responsible for wetland regulation for over a decade. The poor farmer might end up complying with one law only to find out later that he has violated another.

The confusion continues as agencies exacerbate the situation with the development of new regulations. Within the last few months the Department of Housing and Urban Development issued proposed regulations that contained a new definition of wetlands. The country does not need another definition. Rather it needs one definition which all agencies must adopt.

As you embark upon a new decade of legislative initiatives, I truly hope that this Congress will learn from the mistakes of the past. Man's ability to modify the environment on large scale will no longer allow a piecemeal approach to management that has "sufficed" in the past. The 70's can be summed up as the "not in my backyard" decade. The Clean Water Act said "don't dump in the water"; the Marine Protection, Resource and Sanctuaries Act said "don't dump in the ocean"; the Clean Air Act said "don't burn your wastes"; and the Resource Conservation and Recovery Act said "don't dump on the land." While major environmental improvements have resulted from the implementation of these acts, there have also been many problems and needless expenditures of large sums of money associated with the conflicts which have resulted. A good example is the decade-long debate between the Corps and EPA about who has authority and under what law should discharges of solid wastes into waters of the United States be regulated. While the debate has raged, discharges have either gone unregulated or crucial local decisions have been delayed interminably at the federal level. Such disputes would not arise if one agency had clear responsibility for all aspects of the management of each type of waste.

As far back as 1981, in a special report to the President and the Congress entitled The Role of the Ocean in a Waste Management Strategy, the National Advisory Committee on Oceans and Atmosphere (NACOA) reached profound conclusions which are applicable not only to the management of wastes but can serve as guidance in your current deliberations. Among many recommendations was the following:

> 2. NACOA recommends that Congress and the Executive Branch adopt an integrated approach to waste management. This requires that the Environmental Protection Agency modify its existing medium-by-medium approach to waste disposal. Wastes should be disposed of in the manner and medium that minimizes the risk to human health and the environment, and at a price that this Nation is prepared to pay.

Such guidance is equally valuable for the consideration of the allocation of natural resources for man's activities.

I suspect that the NACOA recommendations were never implemented because they lacked the emotionalism that is needed to fuel a protectionist ethic. After all what has more popular appeal "no overall net loss of wetlands" or "balanced decisions on competing uses"? Yet it is the latter slogan that represents sound ecology and is consistent with NEPA.

You now are in the enviable position to preempt the need for any future review group to make a recommendation similar to NACOA's third recommendation:

> 3. NACOA recommends that Congress hold hearings with a view toward eliminating conflicts resulting from the implementation of the present waste management legislation, as part of the process of developing and implementing a national waste management strategy.

Even as you deliberate on legislation endorsing "no overall net loss of wetlands" it is my understanding that another committee in this august body is considering legislation for "no net loss of forested land." Why not "no net loss of agricultural land?" I urge you to exercise the authority vested in you by the public to legislate wisely. Do not begin another cycle of conflicting and parochial laws.

Let me conclude with my thoughts on what should be the direction of your efforts. I believe that this country needs a natural resources conservation program which is based on the same sound ecological principals that were the foundation of the National Environmental Policy Act. Such a program must combine education, financial incentives, and regulation in a coherent program which not only can be recognized by the public as being logical and reasonable but which through broad public support can form the basis for a new national ethic. The current programs are divisive and each day further polarize those segments of the population which must work together if we are ever to achieve an ecologically balanced environment. There is a growing resentment of overregulation of private property simply because the land is cursed with hydric soils and not because it functions differently or better than surrounding nonwetlands. Many citizens see this as an abuse of the powers of the government to protect the public health and welfare.

Implementation of this new program must be by one federal agency with cooperation and consultation (but not oversight) by other agencies. Specify each agencies role in the legislation. Don't leave it to chance.

I believe that all elements of the public except the radical fringes would embrace an approach which balances the needs of society (and the right to "high standards of living and a wide sharing of life's amenities") with the conservation of important natural resources. No single aspect of the natural ecosystem should categorically be given more emphasis than another. Rather each land use decision should be balanced to provide OPTIMUM benefit to man and the natural environment within local, regional and national contexts.

We should not be regulating wet corn fields of marginal agricultural productivity which have not served wetland functions for decades to the detriment of prime farm lands. We should not be destroying virgin forests to protect common cattail marshes. We should not lose valuable riparian habitats in the arid southwest because they do not technically qualify as wetlands. We should not allow the coast of Louisiana to erode away because corrective measures may require discharges of fill. We should not lose valuable greenbelts because part or all of them are not wetlands or because preservation does not serve the goal of "no net loss". Nor should we automatically require the construction of wetlands as mitigation in landscapes dominated by wetlands when upland habitat may actually enhance the overall ecology of the system.

During the last century, man has caused widespread destruction of natural systems. Virtually no part of our biosphere has remained free of man's impacts. Yet at the same time our knowledge of the ecology of our globe has advanced dramatically. That knowledge can be used to reverse many of man's mistakes and in many cases improve upon the natural system. Ecologically sound decisions can not be made, however, when society is strapped with rules which limit the creative application of man's intelligence to the solution of complex problems. Simplified concepts of "no overall net loss of wetlands", "in-kind, onsite mitigation," and "sequencing" not only stifle the application of ecological principals in decision-making, but form a narcotic substitute for sound thought processes. I do not believe that we can count on simplified concepts to solve complex problems. No overall net loss of wetlands is a simplified concept which in the long-term will lead to more problems than it will solve.

SUBMITTED BY BRYAN REDD

TESTIMONY OF WILLIAM B. ELLIS

Before The

HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION

February 27, 1990

Suggestions For An Improved Wetlands Protection Program

Introduction

In recent years environmentally sensitive Americans have come to desire more than unpolluted air, land and water resources. As the human population continues to expand, many see a need for federal and state government action to preserve a variety of natural habitats to perpetuate diverse assemblages of plants and wildlife. In particular, a consensus has emerged that wetland areas should be preserved for the maintenance of organisms that are particularly adapted to life there.

I agree with this objective. However, it is impossible to achieve and undesirable to attempt to achieve under existing pollution abatement laws.

Background

As its name implies, the Federal Water Pollution Control Act of 1972 (now commonly called the "Clean Water Act") was designed almost exclusively to protect surface waters (which includes wetlands) from pollution. Reducing water pollution was intended to benefit people directly by improving water quality for municipal water supplies and water-based recreation, and indirectly by assuring the water quality needed to sustain shellfish beds, fishery areas, fish spawning and breeding areas, and other wildlife.

To achieve these water quality improvements, the Clean Water Act divided the universe of water pollution into two kinds: (1) Point Source pollution, and (2) Non-Point Source pollution. Each was provided its own abatement program. But the Clean Water Act does not establish any program to preserve the existence of aquatic habitats from other threats.

Point Source pollution enters surface waters through pipes, ditches, culverts, dump trucks, or some other clearly defined outfall. Because such pollution is initially segregated from the environment by some confining structure, Point Source pollution is often amenable to treatment by chemical or physical techniques. Non-Point Source pollution enters waterways over broad areas and includes uncollected surface runoff from agricultural operations, urban areas, and other land uses. Reduction of Non-Point Source pollution usually involves preventing its occurrence through management practices and runoff control. Neither pollution control program was intended as a means of comprehensively preserving wetlands against the myriad other activities that may diminish their habitat value.

The Clean Water Act further subdivided Point Source pollution into two types: (1) The standard, archetypical industrial and commercial discharges, and (2) Discharges associated with waterway maintenance, watercourse changes, navigation and harbor improvements. The first of these -- the industrial and commercial discharges -- are regulated primarily by the Environmental Protection Agency through its National Pollutant Discharge Elimination System ("NPDES") program. As its name implies, the eventual goal of that program is to eliminate industrial Point Source discharges. The Clean Water Act preserved the primary role of the Corps of Engineers in regulating the second kind of Point Source discharges -- those associated with waterway maintenance and alterations -- under the Section 404 program. It has never been a goal of the Section 404 program to eliminate these activities.

This regulatory scheme has worked well in controlling the discharge of pollutants, both in the form of industrial wastes and in the form of contaminated dredged spoil or fill material. As a result, water quality in the nation's waters has been gradually improving with corresponding benefits to municipal water supplies, shellfish beds and fishery areas, wildlife, and recreation. However, it has not worked well -- and was never intended to work well -- in assuring that certain natural aquatic areas will be preserved as undisturbed habitat in perpetuity.

Testimony of William B. Ellis

The Problem

Believing wetland areas should be preserved from any disturbance, EPA and the Corps recently have been attempting to accomplish such preservation using their only regulatory tool -- limitations on pollutant discharges under the Clean Water Act. But pollutant discharges is only one of many threats to wetland areas. Each year the majority of wetlands destroyed are lost due to activities that cannot reasonably be characterized as the "discharge of pollutants." These activities include wetland drainage and de-vegetation through timbering, land clearing and other operations.

The results are apparent. First, the regulatory program suffers from disingenuous double-talk. Regulators are tempted to characterize all disturbances of wetlands as "discharges of pollutants," and to characterize the appropriate remedies as restrictions on such discharges. In most of EPA's "veto" actions to date under Section 404(c), the gravamen of EPA's complaint has not been that the area or adjacent waters will be polluted, but rather that the area will cease to be habitat for wetland species. Nevertheless, the agency carefully speaks in terms of "prohibiting the specification of the area as a disposal site," preserving the pretense of combating water pollution.

Second, valuable wetlands continue to be lost at a great rate due to activities that cannot reasonably be characterized as pollutant discharges. The pollution prevention model has simply proved an inadequate framework for deciding which wetlands should be protected and how. If we persist in applying such a model we will neither protect the wetlands that should be protected, nor allow reasonable development in areas where it should be permitted.

A Solution

I urge you to consider a two-part solution. The first step is adoption of a specific, comprehensive wetlands protection and conservation program separate and independent of the Clean Water Act. The second step would be to return the current Section 404 program to its original, proper bounds -- the protection of water quality from discharges that threaten it. As I have said, the Section 404 program works well in the water quality arena and is not in need of revision.

Bills have recently passed Congress that take initial steps toward the first of these objectives. For example, Congress has now authorized expenditure of from $11 million to $15 million during each of the next four years for acquiring, restoring and enhancing wetlands. It has also recently authorized expansion of the Everglades National Park. States all across the country are pitching in, appropriating money to buy and preserve valuable wetlands in cooperation with groups like The Nature Conservancy. In Virginia, our program is called the Natural Heritage Program.

But efforts to date are largely uncoordinated and lack comprehensive direction and planning. Congress could help by adopting a national program truly designed to preserve wetland habitat, not just an unpolluted environment. From my experience with the Section 404 program, I urge you to be sure to include the following characteristics in such a national program.

1. Allow Full Consideration Of Relevant Resource Management Goals

The focus of a pollution abatement program simply is too narrow to accomplish comprehensive wetlands protection. Rather than treating habitat preservation as a matter of pollution control, an effective, intelligent conservation program must provide for identifying, balancing and resolving all of the competing resource management and land use goals that are implicated. These include environmental and ecological issues, aesthetic concerns, economic considerations, and the full range of the public's interest in recreation, water supply, transportation, and other matters.

2. Treat Wetlands According To Their Ecological Value

The current pollution-oriented approach to wetlands protection in many circumstances encourages regulators to treat all classes of wetlands as if they were identical because they are all "waters of the United States." But some wetlands are much more important ecologically -- and are deserving of more protection -- than others.

A comprehensive wetland protection program should acknowledge these differences. It should provide a variety of protective measures to preserve the ecologically-important features of diverse wetland types as effectively and inexpensively as possible, while avoiding unnecessary and unproductive measures.

3. Provide Full Consideration Of Mitigation

Although mitigation must be considered in comparing the environmental effects of alternatives under the National Environmental Policy Act, EPA presently maintains it cannot be considered in identifying the least environmentally harmful alternative under Clean Water Act Section 404. This is illogical and in many instances can compel EPA to make environmentally unsound decisions.

For example, suppose a regulator is attempting to decide whether to permit Alternative "A" or "B." "A" would have initial environmental effects of 100 units, but could be mitigated to have net effects of 50 units. Alternative "B" would have initial effects of 75 units but cannot reasonably be mitigated. EPA's present policy would require selection of Alternative "B," even though "A" with mitigation would be a better choice.

4. Identify Preservation Areas In Advance On A Regional Basis

Testimony of William B. Ellis

As the current regulatory program demonstrates, failure to identify protected areas clearly and in advance leads to unnecessary conflict. Property owners presently are often unaware that federal law restricts use of their land since it is not obvious to laymen (or frequently, even to experts) that their land is a "wetland." Many are acquainted with federal regulation for the first time by means of a cease and desist order. This is often followed by a proposed Consent Order providing for the loss of their improvements, expensive site restoration, devaluation of their property, and civil penalties. This is a shabby way for government to treat those it has essentially failed to notify of their obligations. A wetlands conservation program should provide a mechanism for identifying areas to be protected and notifying the appropriate landowners of applicable restrictions at the outset.

5. Provide Some Compensation To Land Owners

A wetlands conservation law is intended to benefit all of us. Therefore, all of us should pay for it. A fair program for wetlands conservation will not place all of its costs on the relatively few who own and have paid for economically valuable property, only to find the bulk of its economic value taken from them. If a landowner would suffer extraordinary loss by keeping his property in its natural state for our benefit, we should see that he is compensated.

Testimony of William B. Ellis

6. End The "Practicable Alternatives" Shell Game

Currently, EPA and the Corps determine whether wetlands shall be preserved according to whether the owner has available alternative sites for his proposed improvements. Ecologically, this makes no sense. Environmental areas that are truly critical should be preserved whether or not the owner has alternative means of accomplishing his aims.

The "practicable alternative" test also makes little sense as a regulatory matter. Under this standard, license applications necessarily are mired in a lengthy -- and potentially endless -- evaluation of other means to accomplish the owner's purpose. A reasonable inquiry along these lines is already mandated in cases of significant environmental effects under the National Environmental Policy Act. And Congress has already determined that the equivalent of an environmental impact statement is unnecessary in cases of insignificant effects.

To date, EPA has taken the view it is not obligated to identify the least environmentally harmful "practicable alternative" with respect to any permit application. Thus, if an applicant guesses wrong with his first application as to which alternative satisfies the test, he can be required to resubmit application after application -- with potential alternatives changing all the while as circumstances change -- until he either guesses right or quits. The process resembles a shell game and is highly susceptible to abuse by regulators wishing to "hide the pea," or play the game without one.

Conclusion

Preserving wetlands is not a matter of restricting pollutant discharges. As a nation we will do a better job of protecting wetlands if we require the agencies implementing our pollution abatement laws to reserve application of those laws to the tasks for which they were intended, and get on with fashioning truly effective legislation to preserve critical environments. That legislation can and should benefit from our past national experience. Incorporating the points I have discussed in such legislation will help produce an effective, broadly-supported habitat conservation program for wetlands.

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REMARKS BEFORE THE WATER RESOURCES SUBCOMMITTEE OF THE HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE

OF
ANTHONY SCARDINO, JR.
EXECUTIVE DIRECTOR
HACKENSACK MEADOWLANDS DEVELOPMENT COMMISSION

March 13, 1990

MR. CHAIRMAN, MEMBERS OF THE COMMITTEE:

Good Morning. My name is Anthony Scardino and I am the Executive Director of the Hackensack Meadowlands Development Commission, an agency of the State of New Jersey. The region has at its center one of the most successful sports complexes in the United States, the home to the football Giants.

Many people still have memories of what the Hackensack Meadowlands looked and smelled like 30 years ago. There were more than 20 active landfills, and the random unregulated disposal of waste products was commonplace. The low lying marshland that characterized the area was an open invitation for abuse.

The New Jersey Legislature moved to end these practices in 1969 when it created the Commission and gave it three principal responsibilities:

- To protect the balance of nature;
- To provide for orderly development within the Meadowlands; and
- To provide disposal facilities for solid waste for 116 communities.

The Commission became, in essence, the first major regional planning agency with authority to transcend community and county boundaries.

In our attempts to balance these three mandates, we created a Master Plan for these 32 square miles, located only a stone's throw from New York City, and within the most densely populated area of the most densely populated state in the country. This Master Plan, adopted in 1972, zoned large areas of the District for open space and created a marshland preservation zone. It also took into account other policy objectives which include job creation, preservation and restoration of environmental resources, and the creation of housing for diverse income groups.

The Commission is a regional planning agency and the territory under its jurisdiction contains parts of 14 "constituent" municipalities. The Commission has full zoning as well as other powers within the District. The Commission is unique. No other agency has been created at the state level to oversee the restoration of what was once a severely blighted area. Our successes are many, including the restoration of a badly damaged ecosystem. The Hackensack River has returned to a state of health; we have protected thousands of acres of wetlands from dumping and development. But we take particular pride in a two hundred acre section of low quality wetlands which have been restored by a developer within the District, at a cost of approximately $8 million. This small segment of wetlands, because of the apparent success of the mitigation techniques, may well become a national model. During its 20 year history, the Commission's ability to regulate and protect wetlands through planning and zoning has yielded tremendous benefits to the area. If the Commission had failed to implement its original Master Plan, the destruction of the District would have continued. Indeed, without the actions of the Commission, there probably would be no wetlands left to protect.

As bad as the Hackensack Meadowlands problems were in solid waste disposal and unregulated development, there are others. There are three sites within the District on the Superfund National Priorities List, and scores of other abandoned waste sites containing uncontrolled hazardous waste substances. The Commission intends to work with federal and state authorities to remediate these problems with the same vigor and ingenuity that it has pursued in closing all but one open solid waste disposal facility in the area. All of this can be accomplished through regional planning and committed government at the local, state, and federal level.

Although the Commission has operated under a Master Plan approved in 1972, that plan has been overtaken in certain respects by the enactment of various federal laws. The most notable of these is the Clean Water Act, and Section 404 in particular.

The basic objective of the Clean Water Act is "to restore and maintain the chemical, physical, and biological integrity of the waters of the United States." Some believe that this objective can only be fulfilled if all development in water and wetlands ceases. If that were the case, then the other objectives of the Commission, which I have already described, would be totally thwarted.

But we do not believe that was the intent of Congress. We believe that Congress intended for development to occur in a manner that respects the functional values of water and wetlands and the need to mitigate losses by restoring and maintaining wetlands' values in the general vicinity of the proposed development. In many respects, this objective can only be realistically fulfilled by a regional planning agency, such as the Commission, because of its overall zoning authority. In contrast, the federal permit program under Section 404 generally limits its focus to individual permit actions proposed by developers. We do not believe that the overall objectives of the Clean Water Act can be fully realized by regulating individual projects. Rather, the regulation must occur in the spirit of an overall plan for the area that takes into account the balance between development pressures, the overall value of the ecosystem, and all types of activities that can adversely affect wetlands.

Beginning in the early 1980's, the EPA and the Corps of Engineers began to take an active interest in the wetlands of the Meadowlands district. Developers, who had submitted proposals that they believed to be consistent with the Commission's 1972 Master Plan, filed applications with these agencies and often found themselves in a multi-government bureaucratic maze within which many are still lost while others have given up the fight.

Recognizing that good government requires all levels to integrate their respective authorities and objectives, the Commission began a process in 1986 to reach an understanding with the State of New Jersey and the federal agencies involved in regulating wetlands. We realized that without such an agreement, many needed projects in the Meadowlands would never be constructed, and wetlands would continue to be regulated only on a piecemeal, project-by-project basis.

This led to the signing of a Memorandum of Understanding with the Commission, State of New Jersey, the Corps, EPA, and the National Oceanic and Atmospheric Administration in the fall of 1988. The agreement, which is unique, recognized that the Commission had a planning function and that the federal agencies would take that planning function into account as they administered their program to regulate wetlands. Most importantly, the federal agencies recognized through the agreement that as a practical matter there can be instances in which the public interest can best be served by filling or altering some wetlands, provided that filling is consistent with an overall plan designed toward restoring and maintaining the integrity of the entire ecosystem within the District. The agreement specified that the Commission, as an entity, would serve as a surrogate permit applicant for all development within the District, and that the federal agencies and the Commission would then work together in reviewing that application to plan for the future of the Meadowlands, particularly as it concerned the wetlands. I am attaching a copy of this memorandum of agreement to my testimony and request that it be included in the Record.

One of the most important features of the agreement is its recognition of a "no net loss in functional values" goal for the wetlands within the District. This goal coincides with President Bush's recently announced commitment in this regard, and we believe that the efforts underway at the Meadowlands can become one of the first national demonstrations of how this goal can be achieved. The agreement calls for the evaluation of all wetlands within the District, and a joint review among the federal and state agencies to determine quality levels. This agreement would lead to a designation of certain wetland areas that would be preserved; and others that would be candidates for development provided adequate mitigation and restoration of surrounding wetland areas was achieved. This would provide an opportunity, for example, to require developers to assist in the restoration of wetland areas which have been assaulted with hazardous and toxic wastes, but for which there are no federal or state resources to pay for the needed cleanup. The Master Plan which evolves from this process would be incorporated in an overall zoning program by the

Commission, and developers who submitted plans in compliance with this overall Master Plan would be presumed to be in compliance with the requirements of Section 404 of the Clean Water Act, including the alternatives analysis that otherwise would be required by the Section 404(b)(1) guidelines.

Under the agreement, the parties also agreed to develop a Special Area Management Plan (otherwise known as a "SAMP") for the District. The principal objective of the SAMP is to incorporate the requirements of various federal statutes, including Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. However, it also will take into account the requirements of the Resource Conservation and Recovery Act ("RCRA") and the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") in order to deal with the solid and hazardous waste problems that prevail within the District. Using all of these authorities, as well as those within the State of New Jersey, the parties hope that the results of the SAMP will ensure that there not only is no net loss of wetlands values, but an overall environmental benefit in the Meadowlands. We anticipate, if the SAMP process works well, that the new plan will be consistent with all requirements of federal and state environmental laws, and federal permitting decisions on a case-by-case basis will no longer be able to undermine the Commission's Master Plan.

Earlier in my remarks, I talked about good government. Good government means, among other things, that local, regional, state, and federal civil servants must be able to integrate their respective authorities, concerns, and missions in a way that adequately balances the competing interests within their overall mandates. Good government requires responsiveness to these constituents rather than delay in decision making. In short, good government requires sound direction and commitment to purpose.

We have not seen these concepts of good government prevail in the District in the past. Development projects that have been approved by the Corps of Engineers and the Commission consistent with its existing Master Plan, have subsequently been vetoed by EPA--generally because EPA believes that there are alternative sites for these projects. It doesn't matter whether the sites are within the District or whether those sites are owned by the developer. The fact that they exist somewhere is enough to prohibit development, regardless of other important considerations.

We trust that a comprehensive revision to our Master Plan, which takes into account all of these competing factors, will put an end to federal "second-guessing." Everyone needs to know what the ground rules are, and be assured that they will not be caught in a cross fire between federal and state agencies. Vast amounts of resources are required to formulate individual development plans, and these plans should be directed toward complying with an overall Master Plan. The success of the Master Plan is dependent on being able to implement the entire scheme over a 15-20 year period. If the Corps or EPA denies a permit after the Master Plan has been finalized, such a decision has ramifications beyond the specific site in question. The various components of the Master Plan are all dependent on each other. A change in one component of the plan, without regard for its effect on other plan components, erodes the overall effectiveness of the plan as a vehicle to achieve the Commission's statutory goals. Similarly, from a federal standpoint, permit-by-permit decision making is not as effective a way of protecting and restoring wetlands resources as advanced comprehensive planning can be.

We have been working on this problem for a number of years. We have given the matter a thorough and expansive analysis as to how to make a regional planning process work, and it is contained in a detailed document which we are submitting as Attachment II to this testimony. We already have submitted this document to the federal agencies.

We believe there are a number of areas that should be considered in achieving the goal of no net wetlands values lost within the context of an overall master plan for a wetland area. These include the following:

- First and foremost, there must be a commitment by top management to remain actively involved in this master planning effort. Strong leadership is necessary to work out ways to reconcile competing mandates. Without it, we already are seeing some signs of potential delays and difficulties as agency staffers argue over the meaning of some of the provisions in the agreement.

While this dialogue may be constructive at first, the time delays that ensue subsequently become destructive. I am attempting to arrange a meeting with Mr. Constantine Sidamon-Eristoff, recently appointed Regional Administrator of EPA's Region 2 and Col. Ralph Danielson, New York Corps District Engineer, to pursue and resolve these concerns. At the same time, I believe that regular meetings of top management officials will ensure that the process does not become bogged down through bureaucratic bickering.

- Second, there must be a commitment to develop interim procedures that address some of the problems while the overall SAMP is under development. While the agreement committed all parties to adopting interim joint processing procedures, considerable time has lapsed without any procedures evolving. Again, this must be resolved by top management. I am willing, on behalf of the Commission, to make this personal commitment.

- Third, regional planning agencies such as the Commission cannot be expected to bear all of the costs. There are no funds--either state or federal--for the restoration of wetlands. How then does the Hackensack Meadowlands Development

Commission restore this blighted area without some limited development and a program to have developers pay for wetlands preservation and restoration? They are not going to do that unless there is some economic gain.

- Fourth, there must be recognition by the federal government, and the personnel implementing the federal programs, that there are varying types and values of wetlands. A single nationwide standard is simply unworkable. The wetlands of the Meadowlands, probably the most assaulted in the United States, are in need of restoration; badly despoiled, these areas have all types of environmental problems so it is impossible to treat them in the same manner as you would wetlands along the Chesapeake Bay or the plains of South Dakota.

- Federal funding is necessary to purchase privately-owned wetlands deemed to be so ecologically desirable as to warrant perpetual protection. We cannot expect private landowners alone to bear the economic consequences of society's decision to protect wetlands.

- Finally, we must ensure that goals such as "no net wetlands loss" and "restoring and maintaining chemical, physical, and biological integrity" are not viewed in a vacuum. They must, instead, be viewed in the context of available and limited federal authorities. Federal wetlands regulations were never intended to limit growth and herein lies a significant problem. If the statutes are intended to regulate growth, then they should be revised to provide the tools to do so. Meanwhile, federal policy must take account of different and perhaps complementary authorities, including zoning, of regional and local governments; and the overall desire to balance man's need for development of housing, infrastructure, and public necessities and related work with the functional values offered in the affected ecosystem. We cannot lose sight of the overall objectives by allowing ourselves to become bogged down in an isolated swamp of regulation. We cannot hide from the issues by avoiding decisions.

The agreement signed by the federal agencies, the State of New Jersey, and the Commission is a major step in the right direction. Its goals cannot be stalemated, however, by bureaucratic "second-guessing" and delay. I am convinced that this is not the intention of any of the staff assigned to this project, and I am determined to ensure through top management involvement that such a problem which has predominated this issue in the past will not continue to prevail.

Congress needs to temper the various goals of the Clean Water Act to ensure a valid and legitimate role for local, regional, and state governments. Congress needs to provide incentives to states to assume the administration of the Section 404 program in all waters and wetlands within the boundaries of the state. In short, Congress needs to focus these competing demands through legislative direction in a way that ensures that state and local governments closest to the problem can forge the protection needed for these valuable resources.

Thank you.

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REMARKS OF

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EXECUTIVE DIRECTOR
OF
HACKENSACK MEADOWLANDS DEVELOPMENT COMMISSION

Submitted to

THE WATER RESOURCES COMMITTEE
OF THE HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE

Congressional Oversight Hearing

March 13, 1990

"NEW JERSEY IS AN EQUAL OPPORTUNITY EMPLOYER"

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REMARKS BEFORE THE WATER RESOURCES SUBCOMMITTEE OF THE HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE

OF
ANTHONY SCARDINO, JR.
EXECUTIVE DIRECTOR
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March 13, 1990

MR. CHAIRMAN, MEMBERS OF THE COMMITTEE:

Good Morning. My name is Anthony Scardino and I am the Executive Director of the Hackensack Meadowlands Development Commission, an agency of the State of New Jersey. The region has at its center one of the most successful sports complexes in the United States, the home to the football Giants.

"NEW JERSEY IS AN EQUAL OPPORTUNITY EMPLOYER"

ATTACHMENT I

FINAL
August 26, 1988

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding ("MOU") is entered into by and between the undersigned parties.

WHEREAS, the Hackensack Meadowlands Reclamation and Development Act, enacted by the New Jersey legislature in 1968, N.J.S.A. 13:17-1 et seq., requires the Hackensack Meadowlands Development Commission ("HMDC") to prepare and adopt a Master Plan ("the Master Plan") for the physical development of lands lying within the Hackensack Meadowlands District ("the District") and provides for amendment of the Master Plan from time to time; and

WHEREAS, HMDC is currently engaged in revising the Master Plan and zoning regulations, which were originally adopted by HMDC in 1972 and subsequently amended to effectuate certain planning objectives and goals; and

WHEREAS, New Jersey law identifies the District as "a land resource of incalculable opportunity for new jobs, homes and recreational sites," N.J.S.A. 13:17-1, and requires the District's constituent municipalities to provide a realistic opportunity for a fair share of the region's low and moderate income housing needs, N.J.S.A. 52:27D-301 et seq.; and

WHEREAS, HMDC has a statutorily-mandated purpose of providing for "orderly, comprehensive development" in the District while ensuring "special protection from air and water pollution" and recognizing "the necessity to consider the ecological factors constituting the environment of the Meadowlands and the need to preserve the delicate balance of nature" in the District, see N.J.S.A. 13:17-1; and

WHEREAS, HMDC will adopt zoning amendments at the conclusion of the Master Plan revision and, in the interim, will consider certain zoning amendments on a case-by-case basis where such amendments are deemed desirable and in the public interest; and

WHEREAS, certain portions of the District contain waters of the United States (including wetlands) subject to federal jurisdiction under Section 404 of the Clean Water Act ("CWA"); and

WHEREAS, the District is a geographic area of special sensitivity requiring special attention and management as demonstrated by the State of New Jersey's establishment of HMDC and, more recently, the joint effort by the United States Environmental Protection Agency ("EPA") and the United States Army Corps of Engineers ("the Corps") to implement an advanced identification ("AVID") process in the District; and

WHEREAS, the HMDC Master Plan Zoning Rules, N.J. Admin. Code @ 19:4-1 et seq., have been adopted as part of New Jersey's Coastal Management Program and HMDC acts as the lead coastal planning and management agency within the District; and

WHEREAS, the Division of Coastal Resources within the Department of Environmental Protection ("NJDEP") periodically reviews HMDC's actions and can incorporate any proposed changes in HMDC plans or policies in the Coastal Management Program subject to approval of the National Oceanic and Atmospheric Administration ("NOAA"); and

WHEREAS, Section 307 of the federal Coastal Zone Management Act of 1972, as amended, 16 U.S.C. @ 1451 et seq., requires that federal activities directly affecting the coastal zone of a state with a federally approved coastal management program, such as New Jersey, be conducted consistent with that program; and

WHEREAS, there exists a proposed Memorandum of Agreement between the Corps and NJDEP providing that jurisdiction under Section 404 of the Clean Water Act will remain with the Corps within the District; and

WHEREAS, the parties to this MOU now desire to establish a cooperative interagency process for addressing applicable requirements under Section 404 of the CWA and related federal laws and regulations in the context of HMDC's revision of its Master Plan in order to minimize present and future conflicts and facilitate implementation of the revised Master Plan.

NOW, THEREFORE, it is agreed as follows:

I. SPECIAL AREA MANAGEMENT PLAN PROCESS

The parties agree to engage in the development of a special area management plan ("SAMP"), consistent with the Corps' Regulatory Guidance Letter No. 86-10 (October 2, 1986). The SAMP process is a comprehensive plan providing for natural resource protection and reasonable economic growth containing a comprehensive statement of policies and criteria to guide uses of lands and water and mechanisms for implementation in specific geographic areas. The SAMP will result in a definitive regulatory product or products.

A. Key Elements of the Process

1. Joint Development of Composite Wetlands Quality Map

a. Building on their cooperative efforts to date, the parties shall consult on criteria (1) for assessing wetlands functions, (2) for developing probability ratings (i.e., ratings based on the probability that a given wetland performs a given function) see Wetlands Evaluation Technique (Corps of Engineers Waterways Experiment Station, October, 1987) for these functions, and (3) based on the probability ratings, for classifying wetlands in the District as to quality. These cooperative efforts are described in the AVID MOU between EPA and the Corps dated November 12, 1987. Using the criteria and functional probability ratings, the parties shall develop a composite map depicting the quality of wetlands in the District in consultation with one another. This map, in conjunction with other relevant data, will be used by EPA and the Corps in making "suitability" determinations (based solely upon ecological assessments for wetlands in the District pursuant to the AVID process under 40 C.F.R. @ 230.80 (1987)), and by the parties in identifying suitable mitigation sites in the District. It will also be fully considered by HMDC in revising the Master Plan.

b. Consistent with 40 C.F.R. @ 230.80(b) (1987), the AVID "suitability" determinations made by EPA and the Corps in the District shall not be deemed as authorizing or prohibiting the issuance of permits under Section 404 of the CWA to discharge dredged or fill material in the areas identified in the determinations. Any maps issued pursuant to the AVID "suitability" determinations shall state expressly that: "Because other factors must be considered in determining whether to issue a Section 404 permit, the 'suitability' determinations reflected on this map do not constitute permit decisions." The report accompanying the maps shall describe the purpose of the AVID and the method used in arriving at the determination.

2. Preparation of an Environmental Impact Statement

a. The parties shall cooperate in the preparation of an environmental impact statement ("EIS") on the implementation of the SAMP for the District in accordance with the National Environmental Policy Act ("NEPA"), (42 U.S.C. Part 4321 et seq.). Responsibilities of the respective parties will be as follows:

(1) The Corps and EPA will act as co-lead agencies pursuant to 40 C.F.R. @ 1501.5. As such, they will be responsible for reviewing, approving and issuing all EIS documents. Additionally, they will be responsible for conducting appropriate public participation activities required by NEPA.

(2) HMDC will prepare all preliminary drafts of EIS documents subject to the review and approval of Corps and EPA. To the maximum extent possible, the EIS documents will make use of pre-existing data, such as HMDC planning studies and alternative planning scenarios prepared by HMDC and its consultants as well as the AVID suitability determinations (and supporting data) prepared pursuant to I.A.1. of this MOU. Additionally, the HMDC will play an active role in all public participation activities.

(3) All other parties to this MOU shall participate as cooperating agencies in the EIS process in accordance with 40 C.F.R. Part 1501.6.

b. In general, the EIS will be prepared in accordance with 40 C.F.R. Part 1502. However, the parties to this MOU recognize the unique circumstances that apply to this SAMP. Accordingly, the parties agree to the following:

(1) Although the scope of the SAMP will be confined to the District, the parties agree that in accordance with 40 C.F.R. @ 230.10(a) and 40 C.F.R. @ 1502.14, the alternatives analysis presented in the EIS will address appropriate out-of-District alternatives, consistent with sound planning principles. For the purpose of the EIS, the parties further agree that the analysis of alternatives outside the District will be confined to the northern New Jersey geographical area as defined by Union, Essex, Hudson, Bergen and Passaic Counties and part of Middlesex County. This region is commonly referred to as the greater New York/New Jersey metropolitan area.

(2) The EIS documents shall specifically address the requirements of 40 C.F.R. @ 230.10(a) by including a comprehensive analysis of alternatives to dredge or fill discharge activities in the District. In accordance with NEPA and the Clean Water Act, the alternatives considered shall be reasonable, available and feasible. As part of the preparation of the EIS, the parties agree to develop specific criteria for determining the reasonableness, availability, and feasibility of alternative sites, including out-of-District alternatives for the dredge and fill activities. The identified alternatives should be considered in the context of alternative land use configurations for the District's Master Plan. The parties understand that this land use configuration is comprised of synergistic components which should be subject to the practicable alternatives analysis both within and out of the District. The analysis of alternatives shall be sufficiently detailed to support a finding that there is no practicable alternative to the land use configuration recommended for adoption in the Master Plan that would have less adverse impact on the aquatic ecosystem, thus reflecting the policy set forth in 40 C.F.R. @ 230.10(a)(4) and (5).

(3) Although the parties recognize that the primary focus of the SAMP will be to provide a basis for determining whether individual proposed projects within the District satisfy the requirements of 40 C.F.R. @ 230.10(a), the EIS will address the spectrum of impacts on all media (air, groundwater, etc.).

(4) With respect to mitigation of unavoidable adverse impacts identified during the EIS process, the parties agree to the following:

(a) There will be no net loss of wetlands values in the District. This will not preclude investigation in the EIS of out-of-District sites for mitigation of potential wetland losses resulting from authorized fill activities. In this way, a minimum of 1:1 value-for-value replacement for wetland losses can be maintained.

(b) Additionally, the EIS will propose appropriate mitigation measures for all unavoidable adverse environmental impacts.

(c) To the greatest extent possible, the EIS shall utilize alternative mitigation policies and plans prepared by HMDC and its consultants, subject to approval by the Corps and EPA.

3. Preliminary Agreement

a. Based on the Record of Decision for the final EIS and the AVID suitability determinations, the parties shall agree on specific areas of the District in which development will be restricted or prohibited, appropriate land use designations for the remaining wetland areas of the District, and a District-wide mitigation policy providing value-for-value mitigation (on not less than a 1:1 ratio) for any unavoidable wetlands losses resulting from implementation of the revised Master Plan. The mitigation policy shall identify acceptable mitigation measures and designate specific areas as appropriate mitigation sites.

b. Agreement shall also be sought: (a) between HMDC, the Corps, EPA and NJDEP regarding specific activities in the District for which general permits may be issued pursuant to Section 404(e) of the CWA, and (b) between HMDC, NJDEP, the Corps, EPA, the United States Fish and Wildlife Service ("FWS") and the National Marine Fisheries Service ("NMFS") regarding activities that may be covered under letters of permission pursuant to 33 C.F.R. @ 325.2(e)(1) (1987).

4. Best Management Practices

EPA, together with NJDEP, will examine whether "best management practices," as authorized under Section 208(b)(4)(B) of the CWA, can be developed and implemented within the District. In making this determination, EPA and NJDEP will discuss the issue with the other parties to this MOU.

B. Regulatory Products

The process described in this MOU shall seek the following regulatory products:

(1) if appropriate, general permits, as determined to be authorized under Section 404(e) of the CWA, issued with EPA's concurrence;

(2) a revised Master Plan for the District that incorporates a District-wide mitigation plan providing value-for-value replacement of lost wetlands values (on not less than a 1:1 ratio), takes into account the AVID suitability determinations made pursuant to 40 C.F.R. @

230.80 (1987), and uses the EIS, prepared in accordance with NEPA, to plan a land use configuration that, in addition to meeting HMDC's planning purposes in the District, will satisfy the requirements of the 404(b)(1) guidelines and the Corps' public interest review regulations (see 33 C.F.R. @ 320.4 (1987));

(3) restrictions on development in accordance with Federal or State Law in agreed-upon areas of the District through, among other things, land use designations in the revised Master Plan and zoning amendments, where applicable, and/or prospective prohibition of disposal sites by EPA pursuant to Section 404(c) of the CWA;

(4) if appropriate, a list of activities for which letters of permission may be issued pursuant to 33 C.F.R. @ 325.2(e)(1) (1987);

(5) if appropriate, best management practices developed by NJDEP or HMDC, as appropriate, for specified activities, and approved by EPA pursuant to Section 208(b)(4)(B) of the CWA; and

(6) a joint application processing agreement between HMDC, the Corps and EPA that:

(a) Based on a comprehensive finding that the land use configuration and allowable intensity of use in the revised Master Plan complies with 40 C.F.R. @ 230.10(a) (1987) (see I.A.2.b. above), subsequent individual development proposals consistent with the revised Master Plan would not be subjected to additional project-by-project analyses of alternative sites, and would be deemed to be consistent with the requirements of 40 C.F.R. @ 230.10(a) (1987), so long as the permit applicant demonstrates that there are no practicable alternative site plans or construction plans for developing the specific site, consistent with the allowed use and intensity of use, that would have less adverse impact on the aquatic ecosystem; provided that a supplemental alternatives analysis may be required in exceptional and presently unforeseeable circumstances when necessary to meet the requirements of @ 230.10(a). It is understood that individual projects would also need to comply with 40 C.F.R. @ 230.10(b), (c) and (d). However, in light of the parties' commitment, through the SAMP process, to develop and implement a vigorous mitigation policy and to ensure positive environmental gains for the District, the parties expect that projects consistent with the Master Plan would be able to comply with 40 C.F.R. @ 230.10(b), (c) and (d). There is no presumption of compliance with these provisions, however;

(b) Projects inconsistent with the revised Master Plan would be subject to a full alternatives analysis under 40 C.F.R. @ 230.10(a) (1987), including consideration of out-of-District alternatives, if appropriate;

(c) To the extent that development activities in the District require HMDC-issued permits as well as Section 404 permits issued by the Corps, joint permitting procedures, consistent with 33 C.F.R. @ 325.2(e)(3) (1987), would be employed with EPA, FWS, NMFS and NJDEP; and

(d) The agencies would establish cooperative procedures (and HMDC would provide additional resources) for detecting and investigating unauthorized filling of wetlands in the District.

C. Approval of New Jersey's 404 Program

NJDEP and HMDC agree to work together to facilitate federal approval of New Jersey's program to administer Section 404 of the Clean Water Act within the State.

II. IMPLEMENTATION PROCEDURES

A. Agency Representatives

The parties shall each designate a SAMP representative for the purpose of implementing this MOU. The SAMP representatives shall have authority to speak definitively on behalf of their agencies.

B. Meetings

The SAMP representatives (or their designees) shall meet regularly at a time and place to be determined, with the first such meeting to take place not more than 15 days after the effective date of this MOU. On a quarterly basis, the SAMP representatives shall meet to jointly review the progress of this SAMP process, identify any problems that have arisen, and discuss means of resolving such problems.

C. Information and Schedule for Regulatory Decisions

The SAMP representatives shall agree on methods for generating the necessary information for the regulatory decisions required to implement this MOU. The SAMP representatives shall also agree on a schedule for these regulatory decisions, which schedule may be revised as necessary.

D. Coordinator

HMDC, with the concurrence of the other parties to this MOU, shall designate a SAMP coordinator, whose responsibilities shall include: (1) keeping minutes of meetings and circulating those minutes to all SAMP representatives for review, with finalization at the following meeting, (2) preparing lists of attendees and agendas for meetings and circulating these to all SAMP representatives at least one week prior to each meeting, and (3) other responsibilities that may be jointly agreed upon by the parties. HMDC shall pay all costs of the coordinator. The Corps and EPA will be responsible for organizing and administering the SAMP process.

III. INTERIM APPLICATION PROCESSING PROCEDURES

A. Pending Applications

1. For Section 404 permit applications in the District that are pending on the effective date of this MOU ("pending applications"), the Corps shall provide a listing and current status of such permit applications within fifteen (15) days of the effective date of this MOU and every three months thereafter until a final decision has been made on all pending applications.

2. The parties agree that the processing of pending applications shall proceed expeditiously and independently of the process set forth in Sections I and II of this Agreement.

3. For those pending applications on which the District Engineer has not reached a final decision within 45 days of the effective date of this MOU, or, where an EIS is required, within 30 days after notice of the final EIS is published pursuant to 40 C.F.R. @ 1506.10 (1987), the Executive Director of HMDC may request a joint meeting with, as appropriate, the Chief of the Operations Division in the Corps' New York District, the Director of the Water Management Division in EPA's Region II, the Director of NJDEP's Division of Coastal Resources, and comparable officials from FWS and NMFS, to identify the cause(s) of the delay and discuss possible means of resolving the problem(s). Such a request shall not unreasonably be denied.

B. New Applications

Within sixty (60) days after the effective date of this MOU, the parties shall agree upon an interim joint processing procedure for Section 404 permit applications that are submitted after the effective date of this MOU, but before the date of publication of the revised Master Plan ("new applications"). Applicants with pending applications, as defined in paragraph III.A.1. above, may also elect to have such applications processed under this interim joint processing procedure.

C. Unauthorized Filling Activities

Within 120 days of the effective date of this MOU, HMDC, the Corps and EPA shall establish cooperative procedures for detecting and investigating unauthorized filling activities in the District.

IV. GENERAL PROVISIONS

A. It is specifically understood by the parties that this MOU is neither a delegation nor a modification of their respective authorities and responsibilities under applicable provisions of federal or state law. Its purpose is to clarify an agreed-upon cooperative approach. Any party may, upon written notification to the other parties, withdraw from the agreement and proceed independently pursuant to applicable requirements. In addition, the parties agree to work together to modify this MOU should such modification become necessary as a result of changed circumstances.

B. This MOU is effective immediately upon the last signature date of the first four (4) agencies listed below. The other agencies listed below may become signatories to this MOU at any time. However, the participation of any parties signing this MOU after the effective date shall be prospective only; any decisions, agreements or other actions accomplished prior to the date such parties sign this MOU shall be deemed final and shall not be reopened. This MOU shall continue in effect until modified or withdrawn from by all the parties pursuant to paragraph IV.A. above.

Hackensack Meadowlands Development Commission — 9/1/88 Date

William J. — U.S. Environmental Protection Agency — 9/14/88 Date

U.S. Army Corps of Engineers — 14 Sep 88 Date

Christopher J. Daggett — New Jersey Department of Environmental Protection — 9/1/88 Date

U.S. Fish and Wildlife Service — Date

National Oceanic and Atmospheric Administration — Date

National Marine Fisheries Service — Date

ATTACHMENT II

SPECIAL AREA MANAGEMENT PLANNING IN THE HACKENSACK MEADOWLANDS

BEVERIDGE & DIAMOND, P.C.
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Washington, D.C. 20036
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May 3, 1989

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Appendix A, Environmental Improvement Program

This memorandum was written with assistance and input from HMDC's Master Plan Revision Team.

May 3, 1989

MEMORANDUM

TO: Hackensack Meadowlands Development Commission

FROM: Beveridge & Diamond, P.C.

RE: Special Area Management Planning Process

On September 14, 1988, the Hackensack Meadowlands Development Commission ("HMDC" or "the Commission"), the United States Environmental Protection Agency ("EPA" or "the Agency"), the United States Army Corps of Engineers ("the Corps"), and the New Jersey Department of Environmental Protection ("DEP") entered a Memorandum of Understanding ("MOU").1/ By the MOU, the parties agreed to develop a Special Area Management Plan ("SAMP") for the Hackensack Meadowlands District in northeastern New Jersey. One-third of the District contains wetlands. The SAMP is an attempt to resolve the conflicts that have occurred between apparently inconsistent authorities of

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1/ The MOU became effective once the four referenced agencies had executed it. The U.S. Fish and Wildlife Service ("FWS"), the National Oceanic and Atmospheric Administration ("NOAA") and the National Marine Fisheries Service ("NMFS") were invited to join the process. NOAA and NMFS have recently become signatories to the agreement.

the federal, state and local agencies, which have prevented projects from proceeding that were otherwise consistent with HMDC's existing 1972 Master Plan. While the 1972 Master Plan admittedly does not take into consideration federal environmental legislation which has been enacted since the 1972 Master Plan's adoption, the current situation impedes HMDC's ability to discharge its statutory obligations to the District. The principal objective of the SAMP, therefore, is to incorporate the new federal statutes and to address the federal permitting requirements of Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899 ("the 1899 Act") during preparation of a revised Master Plan for the District. The parties have agreed that the plan that results from the SAMP will ensure that there is no net loss of wetlands values and a net environmental benefit in the Meadowlands. As a result, the new Master Plan will be consistent with the requirements of federal environmental laws, and federal permitting decisions on individual projects will not undermine the Master Plan.

The SAMP presents a unique opportunity for state, local and federal agencies to develop a comprehensive plan aimed at managing a number of degraded environmental resources and providing mechanisms to achieve environmental cleanup and restoration of these resources. Planning efforts in the Meadowlands have been constrained by the presence in the

District of approximately 7,300 acres of mostly degraded wetlands, an array of landfills and other contaminated sites, and an extensive existing infrastructure (e.g., highways, sewers, rail lines, utilities) that had been constructed to meet regional and District needs. The combination of degraded resources in the District has also complicated the role of the various agencies attempting to carry out their respective environmental responsibilities without a coordinated plan. The SAMP provides the type of integrated planning that the National Wetlands Policy Forum[2/] recommended for more effective protection of wetlands. It also provides a vehicle for the state and federal agencies to integrate the goals of a number of environmental programs, an approach encouraged by EPA Administrator William Reilly.[3/]

During the discussions that led to the MOU, the parties identified a significant conceptual issue that must be resolved if the SAMP is to achieve its ambitious goals. The issue is

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[2/] The National Wetlands Policy Forum was a task force convened by former EPA Administrator Lee Thomas to examine the status of wetlands protection in this country. The group was made up of about 25 representatives from federal, state and local government as well as from the development, environmental and academic communities. The Forum made a number of recommendations to EPA which the Agency is currently evaluating.

[3/] Statement of William K. Reilly, Administrator, U.S. Environmental Protection Agency, Before the Subcommittee on Water Resources, Committee on Public Works and Transportation, U.S. House of Representatives, April 12, 1989 at 9.

how to conduct the "practicable alternatives" analysis under 40 C.F.R. § 230.10(a) where the proposal being reviewed is a Master Plan (as opposed to a specific development project) and where HMDC's authority is limited by statute to a geographic area that may or may not coincide with the geographic scope of the typical alternatives analysis.

This memorandum describes how the alternatives analysis can be conducted in this context and identifies assessment criteria to be used in developing the Master Plan. Use of the criteria will ensure that the factors necessary to undertake an alternative sites analysis are addressed in the context of the Master Plan. The memorandum also demonstrates how the SAMP will ensure that: (1) the alternatives analyses required by the National Environmental Policy Act ("NEPA")[4/] and the Corps' Public Interest Review ("PIR") [5/] are incorporated into HMDC's revised Master Plan; and (2) HMDC's planning objectives--environmental preservation, orderly development and solid waste management--can be implemented through the revised Master Plan.

Part I of the memorandum describes the circumstances that led to the adoption of the MOU and the SAMP; Part II describes the benefits to be gained by the SAMP process; Part III

[4/] 42 U.S.C. §§ 4332(C)(iii), (E).

[5/] 40 C.F.R. § 320.4(a).

describes how the SAMP will accomplish the goals of the MOU; Part IV describes the legal requirements for the alternatives analyses under the 404(b)(1) guidelines, the PIR and NEPA; and Part V sets forth criteria to be used in the SAMP to select and evaluate alternative development schemes and locations. The memorandum demonstrates that the overall goal of conducting the necessary analysis for wetlands development and planning for environmental remediation can be accomplished in the context of the SAMP.

I. CIRCUMSTANCES THAT LED TO THE MEMORANDUM OF UNDERSTANDING AND THE SPECIAL AREA MANAGEMENT PLAN

A. Creation of the Hackensack Meadowlands Development Commission

Prior to the legislative initiative that created HMDC in 1968, the Meadowlands District was a severely polluted and degraded area. It had been subject to years of unregulated and regulated dumping, and it had become the repository for one-third of all of New Jersey's solid waste flow.[6/] A total of 2,508 acres of wetlands had been converted to landfills or were slated to become landfills. Much of the area that remained wetlands in a technical sense had been overgrown with *Phragmites*, making it all but unfit as diverse wildlife habitat.

The Hackensack River was further polluted by thirteen sewage treatment plants which discharged their effluent into

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[6/] There were 24 operating landfills in 1968.

the river. Moreover, a power plant located on the banks of the river raised water temperatures in the river and thereby reduced its ability to support indigenous aquatic and marine life. Typical industrial practices of the day contributed to the contamination, resulting in a toxic brew of heavy metals, organic pollutants, oil slicks and the like.[7/] As a result, a vital estuary had been converted to a collecting pool for toxic substances and wastes.

Recognizing that a valuable environmental and economic resource had been consigned to a waste heap, the New Jersey legislature created the Hackensack Meadowlands District, established the Commission, and gave it complete planning and zoning authority over a 32-square-mile area that includes all or part of 14 municipalities in two counties. The Commission was charged with a threefold task of providing for:

- orderly, comprehensive development. . . for industrial, commercial, residential, and public recreational and other uses. . . ;
- special protection from air and water pollution; and
- special arrangements for the provision of facilities for the disposal of solid waste.[8/]

[7/] Environmental Protection Agency, Office of Water Planning and Standards, A Water Quality Success Story at 2 (1978, unpublished).

[8/] Hackensack Meadowlands Reclamation and Development Act, N.J. Stat. § 13:17-1.

The Commission's task is to balance the competing needs of the District and to do so in a way that maximizes its ability to satisfy the obligations imposed by the New Jersey legislature. The Master Plan and other extensive regulatory mechanisms established by statute are the Commission's primary vehicles for addressing its statutory mandate.

B. Conflicts Between the Hackensack Meadowlands Development Commission and the Federal Agencies

The MOU and the SAMP were an outgrowth of several years of conflict between HMDC and the federal agencies over the development of wetlands in the Meadowlands. At the root of the conflict is an inherent difference between the way the federal and state statutes approach wetlands development, preservation and restoration issues. The Commission's approach is comprehensive, looking at the District as a whole, over a long time frame (typically, 15 to 20 years), and considering a number of different types of projects at one time. Through this approach, HMDC is able to ensure that an overall environmental benefit results from the combined activities in a given area. In contrast, the federal agencies typically focus on site-by-site protection of wetlands. The permitting focus limits the agencies' ability to plan for or achieve an overall environmental benefit for an area unless an advanced comprehensive planning approach, such as a SAMP, is initiated in cooperation with local planning authorities.

This basic conflict has been compounded by the fact that, in a number of cases, EPA has used its authority under the Clean Water Act[9] to prohibit projects that HMDC felt were necessary and in the interest of the District taken as a whole. Decisions on other projects in the District requiring Clean Water Act approval have been extensively delayed. The most significant conflict has occurred because EPA has vetoed wetlands projects consistent with the Master Plan because the Agency determined that there was insufficient consideration given to practicable alternative upland sites outside the Meadowlands. The practical effect of the Agency's actions disapproving projects that had been approved in the existing Master Plan was to undermine HMDC's ability to meet its statutory obligations.

The success of the Master Plan is dependent on being able to implement the entire scheme over a 15-20 year buildout period. If the Corps or EPA denies a permit after the Master Plan has been finalized, such a decision has ramifications beyond the specific site in question. The various components of a Master Plan are dependent on each other. A change in one component of the Plan, without regard for its effect on other Plan components, erodes the effectiveness of the Plan as a vehicle to achieve HMDC's statutory goals. Similarly, from a federal standpoint, permit-by-permit decision-making is not as effective in protecting and restoring wetlands resources as advanced comprehensive planning can be. Effective, environmentally-sensitive comprehensive planning cannot be carried out by the federal agencies acting alone. Therefore, the conflict between HMDC and the federal agencies must be resolved in order for all agencies to effectively discharge their statutory mandates.

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[9] All references to the Clean Water Act are specifically to the Section 404 requirements, which prohibit the discharge of dredged or fill material into "waters of the United States" except in compliance with the requirements of the Act.

II. BENEFITS TO BE GAINED BY THE SPECIAL AREA MANAGEMENT PLAN PROCESS

The SAMP process will allow the development and approval of a comprehensive plan for overall development, restoration and preservation in the District. The agencies have agreed that the Plan that ultimately emerges from the SAMP process will ensure that there is no net loss of wetlands values in the District.

The SAMP agencies are all aware that as a practical matter some wetlands in the Meadowlands will need to be developed in order to meet the needs of the region. This is the case because almost all of the undeveloped land in the District is wetlands, albeit degraded. Moreover, the Meadowlands District is subject to intense development pressure, including a strong need for housing and jobs, as well as a need for remediation of environmental problems. If none of the wetlands were filled, HMDC would not be able to achieve its statutory goal of orderly economic development. Nor, ironically, would it be able to achieve its other statutory goals of environmental remediation and solid waste management since it is in-District development, particularly commercial development, that provides the resources and public support for restoration of degraded wetlands and other remediation efforts.

The SAMP approach, because it can achieve restoration as well as preservation, is particularly appropriate in the Meadowlands since the District's wetlands are not pristine, productive aquatic ecosystems needing preservation but are instead areas requiring planning and a commitment of resources for restoration. Putting a regulatory fence around specific wetlands in the District to prevent filling and to preserve the status quo will not protect wetlands from other potential threats (e.g., groundwater contamination, leachate from hazardous waste sites and activities that cannot be regulated by Section 404 of the Clean Water Act or Section 10 of the 1899 Act). Nor does it offer the opportunity to foster overall environmental improvement of the area within the HMDC boundaries. Moreover, blanket prohibitions of wetlands discharges will create the anomaly of unforeseen secondary and cumulative impacts that could destroy the wetlands as surely as the prohibited discharges would have.[10/]

Because of its array of zoning and other regulatory authorities, which can be used to address sources of pollution in addition to the discharges regulated by the federal statutes, HMDC is uniquely situated to coordinate a comprehensive environmental improvement effort and ensure that planning restrictions, open space requirements and mitigation commitments are fully implemented.[11/] Such a landscape approach to wetlands and other environmental problems has decided advantages over piecemeal permitting decisions. Experience has shown that it is very difficult to coordinate the permit conditions and mitigation proposals for separate individual Section 404 and Section 10 permits. Therefore, whatever environmentally-beneficial conditions agencies might impose on one permit can be undermined by offsite problems and

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[10/] For example, if all development were forced to upland sites surrounding the wetlands in the Meadowlands, then the infrastructure required to serve those new developments (highways, public transportation, sewers, other utilities) would probably be required to expand through wetlands to service the upland developments because there would be no practicable alternative upland routes for the needed infrastructure.

[11/] For example, under the existing Master Plan, the Commission has caused developers and public agencies to restore or enhance hundreds of acres of wetlands as a condition of zoning approvals, and has worked with the New Jersey Turnpike Authority toward the restoration of 320 acres of degraded wetlands as part of its proposed turnpike widening project.

developments beyond the purview of the permit application. The SAMP affords a meaningful opportunity to overcome these limitations and to identify and mitigate cumulative and secondary impacts.

Without the SAMP, the considerable development pressure in the District would continue to tax the already limited resources of the federal agencies; conflicts between HMDC and the federal agencies would continue unabated; the Commission's wetlands restoration program, to the extent it is tied to its development program, would continue to be thwarted; federal wetlands protection would continue to be a piecemeal undertaking; development in the District would be haphazard and uncoordinated to the detriment of HMDC's statutory goals; and a coordinated program to deal with the adverse impact of adjacent contaminated areas on wetlands or other environmental resources could not be undertaken. The SAMP is an important vehicle for accomplishing a number of goals in an efficient manner.

III. HOW THE SPECIAL AREA MANAGEMENT PLAN WILL ACCOMPLISH THE GOALS OF THE MEMORANDUM OF UNDERSTANDING

The SAMP will result in two governmental actions which will allow the goals of the MOU to be implemented: (1) HMDC will prepare and adopt a revised Master Plan; and (2) the Corps and EPA, following coordination with the U.S. Fish and Wildlife Service, the National Marine Fisheries Service and the State of

New Jersey, will adopt a Section 404 permitting policy. Under the permitting policy, once the Master Plan is adopted, projects consistent with the Master Plan will not have to undergo individual alternative sites analyses pursuant to the Section 404(b)(1) guidelines, the PIR or NEPA. Together, these two actions will provide a foundation for the establishment of streamlined permitting procedures for projects that are consistent with the new Master Plan.

A. The Hackensack Meadowlands Development Commission's Adoption of a Revised Master Plan

HMDC will be the lead agency in preparing a revised Master Plan that will satisfy its own planning goals and its statutory mandate. In preparing the Master Plan, HMDC will consider the results of planning studies, the Environmental Impact Statement ("EIS") on the Master Plan and the federal agencies' Advance Identification ("AVID") study of probable wetlands values in the District.[12/] HMDC will evaluate the available

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[12/] The Corps and EPA took their first step in recognition of the advantages of a comprehensive, cooperative approach when they initiated an AVID study to assess wetlands values throughout the District. This was an important step in an effort to reach consensus on the basic information on wetlands quality by classifying the wetlands so as to give some indication of the relative suitability of filling in certain areas. However, because the study is limited by the evolving nature of scientific inquiry in this area, does not consider other environmental issues in the District, and could not consider all factors that must be addressed in the 404 regulatory review, it will not replace permit decision-making, nor will it address the issue of how to accomplish systematic restoration of degraded wetlands. Use of the AVID as part of the SAMP, however, should be beneficial.

information and determine the appropriate land use designations, intensity of development and performance standards for the District. These decisions will be made with input from the federal agencies.

1. The Hackensack Meadowlands Development Commission's goals in development of a Master Plan

HMDC's goals for its Master Plan are dictated largely by its statutory mandate to provide for orderly development, to preserve and protect the environment and to provide for solid waste management for the larger region of which the District is a part. The Commission must seek to provide affordable housing for the region, to provide opportunities for residents to live and work in the same community, to foster development in areas that maximize use of existing infrastructure, and to handle solid waste management for the region. The Commission must also attempt to deal with the array of environmental problems plaguing the District.

The type and amount of housing and other development proposed in the Master Plan will depend largely on planning and marketing studies demonstrating a need in the region for such development. The manner in which the District will address the various environmental concerns, however, will depend on its ability to develop creative ways to finance the necessary remediation efforts. The resources generated by commercial development provide the primary means for financing remediation efforts, but other state and federal programs may be of assistance in this effort.

The environmental improvement program ("EIP") presently contemplated by HMDC will complement the goals and requirements of federal and state programs aimed at improving the environment. The program will attempt to integrate research and development activities, construction projects, regulatory and enforcement actions and identification of funding sources into one comprehensive scheme aimed at achieving overall environmental improvement over the 20-year lifespan of the Master Plan. The program will be designed to address such matters as:

- degraded wetlands;
- non-point source pollution, including storm water management;
- industrial and municipal point source discharges;
- abandoned landfills that require corrective action (*e.g.*, capping or leachate control);
- siting of new solid and hazardous wastes facilities;
- groundwater protection strategies; and
- flood control management.

HMDC is in the process of considering and evaluating projects and resources which would allow the orchestrated cleanup of the District. Some of the projects being considered now include a Storm Water Management Program, through which storm water would be collected and treated either under a

District-wide plan or for a specific section of the District before the water was released into a waterbody. Another potential project is a Stationary Source Program through which grants or loans would be provided to industries to improve the ambient air quality associated with releases from their facilities. Similarly, a Hazardous Substance Enforcement Program could be developed in which HMDC would assist EPA and DEP through land assessments and legal enforcement actions to clean up contaminated sites. These mechanisms would be combined with measures that HMDC has previously relied on in implementing the 1972 Master Plan.[13/]

HMDC is investigating state and federal programs which may provide the resources to significantly advance an environmental improvement program such as that being contemplated. Some of the mechanisms that may be employed by the Commission in designing and carrying out the EIP are discussed in Appendix A, Environmental Improvement Program.

[13/] As mentioned earlier in this memorandum, HMDC has used its zoning and other statutory authorities to collect funds and to require that developers and public agencies take certain actions toward overall environmental improvement as a condition to receiving zoning approval for certain types of projects. HMDC has also used tipping fees at landfill sites as a vehicle for collecting funds to allow the closing of landfills in an environmentally safe manner. HMDC is likely to continue employing these types of mechanisms.

2. Key steps in revising the Master Plan

With these goals in mind, the actual preparation of the Master Plan begins. As a first step, the SAMP participants will continue to develop and gather information to be used in preparing the final revised Master Plan. EPA and the Corps, with input from HMDC, have already completed the first phase of the AVID study.[14/] They will now make determinations about the suitability or unsuitability of certain wetland areas for development, based solely on ecological considerations. This information will be taken into consideration by HMDC in preparing the revised Master Plan, although other considerations, such as the location of old landfills, hazardous waste sites, and existing infrastructure and other planning constraints, may require the Master Plan to designate areas for development that have been determined to be unsuitable by the AVID.

While the agencies are proceeding with the AVID, HMDC will compile existing planning studies of the District, assess the need for additional studies and undertake those studies. These studies will identify the various planning constraints and opportunities that HMDC will consider in revising the Master Plan, including: (1) existing development patterns in the region; (2) planned development that is already scheduled to

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[14/] See 'Functional Assessment of Wetlands in New Jersey's Hackensack Meadowlands."

take place in the District; (3) market demand for various uses, as documented in regional market studies and plans of other jurisdictions in the region; (4) transportation access; (5) infrastructure needs; (6) housing, including low- and moderate-income housing needs; and (7) other environmental constraints (*e.g.*, landfills and hazardous waste sites) and (8) possible environmental remediation efforts. As indicated, HMDC has the primary responsibility in the SAMP process for determining regional needs and designing a land use plan to meet those needs.[15]

Similarly, the Corps and EPA will begin to plan the EIS. The EIS will provide a legal basis for the permitting policy the federal agencies propose to adopt for the District and, in addition, will provide the Commission with baseline data and analysis of environmental issues that will be useful in formulating and evaluating alternative Master Plan scenarios. Likewise, the planning data generated by the Commission will be important to the EIS preparation, in particular in developing alternative scenarios for balanced development that meet the District's goals.

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[15] *See* 33 C.F.R. § 320.4(j)(2) which provides that:

> The primary responsibility for determining zoning and land use matters rests with state, local and tribal governments. The district engineer will normally accept decisions by such governments on those matters unless there are significant issues of overriding national importance.

The agencies should agree initially on specific alternative development schemes to evaluate in the EIS and on assessment criteria that will be used in considering the various alternatives. The assessment criteria should, at a minimum, address all of the factors that each of the agencies is required to take into account when conducting alternatives analyses pursuant to the 404(b)(1) guidelines, NEPA and the PIR. Although the EIS addresses considerations beyond the alternatives analyses, making such factors important in the larger environmental analysis will ensure that the federal agencies are in the position at the end of the SAMP process to conclude that projects consistent with the Master Plan do not have alternative sites.

The alternatives will include land use plans as well as various District-wide mitigation scenarios. HMDC may consider the use of transferable development rights ("TDRs") and donations to a mitigation bank similar to that established by the recently enacted New Jersey Freshwater Wetlands Protection Act. A number of alternatives and criteria based on existing information are suggested later in this memorandum; however, as the studies continue and further information becomes available, the suggested list of alternatives and criteria may need to be modified.

The scoping process for the EIS, consistent with 40 C.F.R. § 1501.7, will also need to be conducted in the early stages of the SAMP process. This will allow the participants in the SAMP to reach a consensus on the significant issues that will be studied and analyzed in the EIS. As the SAMP process moves forward and more information becomes available from the various ongoing studies, the information may lead to adjustments and modifications not only in the EIS process but also in other components of this master planning effort.

The results from the AVID functional assessments, the planning studies and the EIS will be used in deriving a final revised Master Plan.

B. The Federal Agencies' Adoption of a Section 404 Permitting Policy

The SAMP studies will also be designed to provide the information necessary for the Corps and EPA to establish a Section 404 permitting policy that developments in the District that are consistent with the Master Plan do not have to undergo an individual alternative sites analysis at the time they are being proposed. To provide the information necessary to establish the policy, the EIS will apply the practicable alternatives analysis under 40 C.F.R. § 230.10(a) to alternative Master Plans under consideration by HMDC. In addition, the permitting policy will be supported by the other information in the EIS, the AVID study and the Commission's planning studies. The permitting policy will apply to all developments that would require individual Section 404 permits.

The federal agencies may also determine that it is appropriate to authorize certain categories of activities by means of general permits[16/] or letters of permission ("LOPs").[17/] For both general permits and LOPs, the major effort by the federal agencies occurs in determining which activities are appropriately subject to such procedures. Determination of which activities fall within these regulatory permits involves issuance of public notices, opportunity for public comment and consultation with various agencies. Once it is determined that a general permit or LOP is appropriate, however, the permitting proceedings are significantly reduced.

C. Streamlined Permitting Procedures

In accordance with the MOU, once HMDC has adopted a revised Master Plan and the Corps and EPA have adopted a Section 404 permitting policy, projects that are consistent with the Master Plan would be subject to a streamlined permitting procedure. The procedure would require the individual developer to submit an application describing the project and demonstrating that it

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[16/] General permits are issued by the Corps on a state, regional or nationwide basis for categories of activities that are substantially similar in nature and cause only minimal adverse individual and cumulative environmental impacts. 33 U.S.C. § 1344(e).

[17/] The LOPs are a type of permit issued through an abbreviated processing procedure for categories of activities which are developed by the Corps district engineer, through consultation with federal and state fish and wildlife agencies, EPA, the state water quality certifying agency and the Coastal Zone Management Agency. 33 C.F.R. § 325.2(e)(1).

is consistent with HMDC's revised Master Plan. The application process and analysis, including the public notice and federal and state consultation requirements, would proceed as usual except that: (1) the alternative sites analyses would not be necessary; and (2) and an EIS would only be required if the detailed site-specific proposal necessitated supplemental environmental consideration beyond that already contained in the EIS on the Master Plan.

Under this approach, the individual developer would still be required to demonstrate that: (1) the project does not cause or contribute to violations of state water quality standards, violate toxic effluent standards, jeopardize endangered species or their habitat, or violate requirements to protect marine sanctuaries; (2) the project will not cause or contribute to significant degradation of waters of the United States; and (3) appropriate and practicable steps have been taken to minimize potential adverse impacts of the project. If the project is truly consistent with the revised Master Plan, the SAMP agencies anticipate that individual developers should not have difficulty meeting these other requirements of the Section 404(b)(1) guidelines.[18/] This approach would allow the individual projects to be approved in an expedited fashion.

[18/] MOU at 11.

If a project was determined not to be consistent with HMDC's revised Master Plan, then compliance with the full Section 404 and Section 10 procedures, including the alternative sites analyses, would be necessary.

For projects that qualify for general permits or LOP's, the procedures would also be substantially reduced. For general permits issued through the SAMP,[19] once an individual developer determines that his activity falls within the activities covered by such a permit, no further authorization would be necessary. For activities subject to LOP proceedings, a LOP may be issued after a public interest evaluation is conducted; a water quality certification pursuant to Section 401 has been issued or waived; and a Coastal Zone Management consistency concurrence is obtained or procured. An individual public notice need not be published.[20]

IV. LEGAL REQUIREMENTS FOR THE ALTERNATIVES ANALYSES

The central issue for the SAMP participants is how to maintain a broad planning perspective and at the same time satisfy the alternatives analyses of the 404(b)(1) guidelines, the PIR and NEPA, which typically, but not necessarily, have focused on the details of a specific project at the time a project proponent is applying for a permit. The typical alternatives analyses are also not done on the actions of a planning agency that has jurisdiction and authority only in a limited geographical area. Precisely how the alternatives analyses are implemented is a matter within the discretion of the federal agencies.[21] However, the legal requirements for the various alternatives analyses are such that there should be no impediment to their incorporation into the master planning process by using assessment criteria in the EIS that take these requirements into account.

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[19] The Corps has already issued 26 nationwide general permits. 33 C.F.R. § 330.5. These preexisting general permits would not be affected by the SAMP unless the Corps and EPA determine that they require modification for the Meadowlands.

[20] 33 C.F.R. § 325.2(e)(1).

A. Section 404(b)(1) Guidelines

The analysis under the Section 404(b)(1) guidelines favors environmentally-preferable alternatives. The central principle of the Section 404(b)(1) guidelines is that:

> [N]o discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.[22]

An alternative is practicable if it is available to the project proponent and capable of being done after taking into consideration cost, existing technology and logistics in light of the overall project purpose. Practicable alternatives with less adverse impacts are presumed to exist if: (1) the discharge is in a special aquatic site--such as wetlands; and (2) the project is not water-dependent.[23]

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[21] *See* 45 Fed. Reg. 85,336, 85,340 (Dec. 24, 1980).

[22] 40 C.F.R. § 230.10(a).

The 404(b)(1) practicable alternatives analysis drives the decision toward an alternative that is preferable from the standpoint of protection of the aquatic ecosystem. However, non-aquatic environmental impacts must be taken into account. If an alternative that is less damaging to the aquatic ecosystem would have other significant adverse environmental consequences, then the 404 discharge may be allowed despite the existence of a practicable alternative.[24] This is particularly important in an evaluation of the Master Plan for the Meadowlands since landfills and other contaminated sites are found throughout the 32-square mile area and thus construction in many upland areas can have serious adverse public health (e.g., underlying contaminated groundwater) or environmental effects, including, ironically, effects on adjacent wetlands.

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[23] Most of the projects in the District are not likely to be water-dependent. A water-dependent project is one that requires access or promixity to the special aquatic site in question to fulfill the basic purpose (e.g., a marina). 40 C.F.R. § 230.10(a).

[24] 40 C.F.R. § 230.10(a); 45 Fed. Reg. 85,340.

Applying traditional 404 terminology to the SAMP, the proposed action that is the subject of the federal agencies' regulatory review is HMDC's adoption of a revised Master Plan. While not granting or denying an individual permit at this time, the federal agencies are proposing to adopt a regulatory presumption in the District as to the existence of alternative sites for later individual projects that will implement the Master Plan. HMDC's adoption of its Master Plan, combined with the federal regulatory presumption for the District, will allow 404 discharges consistent with the SAMP to take place within the District. Under this approach, HMDC effectively stands in the shoes of the traditional permit applicant.

To facilitate the required analysis, the Commission, acting in the manner of an applicant, will provide information on the mix of uses, intensity of development, and performance standards that would be attached to different land use designations. For example, the land use designations will specify permitted uses for specific areas (i.e., residential, industrial and commercial uses, warehouse districts, parks and playgrounds); the minimum and maximum lot sizes for specific uses; height and density limitations; buffer zone and open space requirements; impact fees and other mitigation and remediation conditions; and specified environmental performance standards. From this information, the environmental and non-environmental consequences of alternative development schemes can be articulated, measured and compared through the EIS.

Moreover, since HMDC is "applying" for the 404 permitting policy, as is the case in the typical permit situation, it is HMDC's goals and planning purposes that must be considered in assessing the practicability of alternative sites for development, preservation and restoration under the Master Plan.[25] The criteria of practicability must consider an alternative's ability to satisfy the Commission's statutory purposes, including overall environmental improvement, solid waste management, and development of jobs and housing; the practical considerations that will be associated with the type of development scheme and the specific site; the function and quality of wetlands that would be affected by the contemplated development or conservation designation; and the existence of mechanisms to enable remediation of environmental conditions.

For example, the criteria include such factors as the extent to which the Master Plan makes use of existing infrastructure or requires the construction of new infrastructure, the extent to which the Master Plan facilitates access to major transportation facilities, the extent to which the Master Plan produces resources to remediate existing environmental problems, and the extent to which the plan creates an attractive environment in which to live and work. The criteria also address cumulative and secondary impacts.[26] For example, if a wetlands site with necessary infrastructure access is rejected because of wetlands concerns, and as a result, the project is then built in an upland site without infrastructure, the ultimate result could be that new infrastructure must be constructed through wetlands to service the upland development because there are no "practicable alternative" locations for the required infrastructure. Thus, the secondary impact of the upland construction could be the destruction of tha wetlands for the necessary infrastructure.

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[25] HMDC agreed in the MOU to consider out-of-District alternatives in determining the elements of the Master Plan, even though out-of-District alternatives will not allow HMDC to achieve the basic goals of the Master Plan or to provide necessary services to the residents of the District.

These factors are considered in conjunction with the impact of the plan on wetlands, the ability of the plan to maximize wetlands restoration in the District and the effect of the plan on the overall environmental improvement of the District. Use of the criteria must yield adequate information to enable the Corps and EPA, with the input of the other SAMP agencies, to determine that there are no practicable alternative sites to the development sites designated in the Master Plan and that the Master Plan, taken as a whole, will result in no net loss of wetlands values in the District.

26/ 33 C.F.R. §§ 320.4(a)(1), 325.3(c).

B. Public Interest Review and National Environmental Policy Act

In addition to the "practicable alternatives" analysis required by the Section 404(b)(1) guidelines, NEPA and the Corps' PIR also require alternatives analyses that must be satisfied in the context of this comprehensive planning effort. NEPA and the PIR have not been the cause of conflicts between HMDC and the federal agencies because these provisions require disclosure and consideration of environmental consequences, but do not command an environmentally-driven result on each individual permit. Therefore, application of these requirements is less likely to dictate that a site identified in the Master Plan for development should not be used.

Structuring the assessment criteria for this SAMP so that NEPA and the PIR as well as the 404(b)(1) guidelines are incorporated into the process will further streamline the procedures for individual developers who seek HMDC approval and Section 404 permits at a later stage. The possibility that an individual permit application would be denied because an alternative site is determined to be available or because an alternative was not considered should be avoided.

1. Public Interest Review

Under the PIR, the Corps must consider the practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed action.[27] Like the 404(b)(1) guidelines, the proposed action for purposes of the PIR is adoption of the Master Plan which will be a significant factor in some future permitting actions by the Corps. To satisfy the requirements of this analysis, the criteria must allow for consideration of alternative development schemes as well as alternative locations for the overall development and restoration programs which will enable HMDC to adopt a Master Plan that will achieve a permitting presumption from the federal agencies.[28]

2. National Environmental Policy Act

Like the PIR, NEPA requires consideration of reasonable alternatives to the proposed action and the environmental impact of such alternatives. The analysis is required to ensure that the federal decision-maker has fully considered the environmental consequences of the decision before it, but is not designed to force a decision in favor of the environmentally-preferable alternative. Thus, although an alternative which is preferable in terms of the overall environment is the goal of the SAMP committee, NEPA does not force such a result.

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[27] 33 C.F.R. § 320.4(a)(2)(ii).

[28] However, the alternatives analysis under the PIR is only one factor to be weighed in deciding whether the public interest is served by the project. 33 C.F.R. § 320.4(a)(3). The Corps' policy also requires consideration of secondary and cumulative impacts on wetlands. 33 C.F.R. §§ 320.4(a)(1), 320.4(b)(3), 325.3(c).

However, NEPA does explicitly require consideration of a no-action alternative as well as reasonable alternatives not within the jurisdiction of the lead agencies (here, the Corps and EPA) or within the capability of the project proponent (here, HMDC).[29/] "No-action" in this case would simply mean a continuation of the federal status quo, and, of course, "no-action" is always an available option to the federal agencies. With respect to alternatives beyond the jurisdiction of the lead agencies, there are no "reasonable" alternatives (i.e., alternatives that would accomplish the same purpose) that are not within the jurisdiction of the federal agencies because the proposed federal action is the creation of a Section 404 permitting presumption which can only be established by the 404 permitting agencies. Similarly, alternatives beyond the capabilities or jurisdiction of HMDC (or of the Corps and EPA if they were deemed project proponents) could not achieve the project purpose of adopting a Master Plan for the District since only HMDC is empowered to adopt a Plan. Thus, incorporating NEPA into the master planning simply requires consideration of reasonable alternative development schemes and of the broad range of environmental and non-environmental factors that are part of the analysis, including economic and social benefits.

[29/] 33 C.F.R. § 1501.14(d); 46 Fed. Reg. 18,026, 18,027 (March 23, 1981).

V. ALTERNATIVE DEVELOPMENT CONCEPTS AND CRITERIA

A. Reasonable Alternative Development Concepts

For purposes of the revised Master Plan, the EIS and the SAMP, alternatives must be evaluated in two iterative phases: first, to choose an overall concept plan for the District (*e.g.*, a high density area concentrated at one location vs. lower density developments spread throughout the District) and, second, to determine where to locate the development and preservation/restoration uses contemplated in the selected concept plan.

As a starting point, HMDC has identified five alternative Master Plan concepts that should be evaluated in the SAMP. Other reasonable approaches may be identified as the SAMP process goes forward and those will be included in the analysis. The five alternatives are:

1. No action: which would involve retaining HMDC's existing Master Plan without revision, or revising the Master Plan without consideration of the Section 404 implications, with no permitting presumption by the Corps and EPA;
2. Local planning: which would require dissolution of HMDC and returning the planning authority to the constituent municipalities;
3. Wetlands-driven: under which development would be restricted to non-wetlands areas;
4. Opportunistic "linear" concept: under which most development would occur in a typical highway-oriented (Route 3) linear development with few planned precincts; and
5. Development nodes: in which mixed use development would be concentrated around three or four "nodes"

with an accompanying highway and transit focus and central design.

Evaluation of these Master Plan concepts against criteria that incorporate the requirements of the PIR, NEPA and the 404(b)(1) alternatives analyses will yield a Master Plan acceptable to all the involved agencies. Once one of the above concept Plans has been selected, the assessment criteria will then be used to select sites for development and conservation efforts.

B. Specific Evaluation Criteria

The criteria listed below should be used to evaluate the various alternative development concepts. These criteria are designed to ensure that the requirements of the various alternative analyses as well as HMDC's planning concerns will drive the ultimate decisions in the Master Plan.

1. Wetlands and water quality considerations

1. To what extent will the plan alternative cause or contribute to violations of state water quality standards?

2. To what extent will the plan alternative violate any applicable toxic effluent standard or prohibition?

3. To what extent will the plan alternative violate any requirements imposed by the Department of Commerce to protect any marine sanctuary?

4. To what extent will the plan alternative contribute to significant degradation of waters of the United States?

5. To what extent will the plan alternative designate and locate land uses in order to minimize potential adverse impacts on the aquatic ecosystem?

6. To what extent will the plan alternative have an adverse impact, cumulatively and individually, on the substrate?

7. To what extent will the plan alternative have an adverse impact, cumulatively and individually, on water circulation, fluctuation and salinity?

8. To what extent will the plan alternative effect changes in the kind and concentration of suspended particulates in the vicinity of the disposal site?

9. To what extent will material discharged because of the plan alternative introduce, relocate or increase contaminants?

10. To what extent will the plan alternative have an adverse impact, individually and cumulatively, on the structure and function of the aquatic ecosystem and organisms?

11. To what extent will the plan alternative have adverse cumulative and secondary impacts on the aquatic ecosystem?

2. Other environmental considerations

12. To what extent will the plan alternative contribute to the containment or spread of contamination from existing contaminated sites?

13. To what extent will the plan alternative address existing groundwater contamination or cause additional groundwater problems?

14. To what extent will the plan alternative facilitate the clean up of contaminated sites?

15. To what extent will the plan alternative impose performance standards and/or generate resources that can be used for remediation of environmental problems within the District?

16. To what extent will the plan alternative result in uses of land resources that minimize adverse environmental impacts with regard to air quality, water quality, solid and hazardous waste controls?

17. To what extent will the plan alternative result in uses of land resources that further degrade air

quality, water quality, solid and hazardous waste sites?

18. To what extent will the plan alternative have adverse secondary effects and cumulative impacts on environmental resources within the District?

19. To what extent will the plan alternative have adverse secondary effects on environmental resources outside the District?

20. To what extent will the plan alternative jeopardize the continued existence of species listed as endangered or threatened?

21. To what extent will the plan alternative result in the likelihood of the destruction or adverse modification of habitat determined by Secretary of Interior or Commerce to be critical habitat?

22. To what extent will the plan alternative be consistent with the State Implementation Plan under the Clean Air Act?

23. To what extent will the plan alternative have an adverse impact on the urban quality of the environment?

24. To what extent will the plan alternative contribute to excess demand for scarce energy resources?

25. To what extent will the plan alternative promote fish and wildlife values in the area?

26. To what extent will the plan alternative reduce flood hazards or have an adverse impact on floodplains?

27. To what extent will the plan alternative increase shore erosion and accretion?

3. Planning and public interest considerations

28. To what extent will the plan alternative locate residential and commercial uses in proximity to compatible existing land uses?

29. To what extent will the plan alternative allow new housing to be located in proximity to existing and projected job opportunities?

30. To what extent will the plan alternative allow for coordination and integration of existing and future land uses?

31. To what extent will the plan alternative satisfy market demand for various uses as documented in regional market studies?

32. To what extent will the plan alternative allow use of existing infrastructure?

33. To what extent will the plan alternative require the construction of new infrastructure facilities or upgrading standards of existing facilities?

34. To what extent will the plan alternative allow HMDC to meet the housing needs of the District, including low- and moderate-income housing?

35. To what extent will the plan alternative allow use of existing or potential access to major transportation facilities, including commuter rail lines and turnpike exchanges?

36. To what extent will the plan alternative permit public transportation connections between various uses?

37. To what extent will the plan alternative provide for major recreation and open space areas?

38. To what extent will the plan alternative allow the generation of tax revenues, ratables and other revenues required to finance and implement District-wide programs, to develop public facilities, infrastructure and environmental programs, such as closing landfills, wetlands restoration and cleaning up contaminated sites?

39. To what extent will engineering, financial or other constraints affect the overall cost of development contemplated in the plan alternative?

40. Is the property for the plan alternative under the auspices of HMDC?

41. To what extent will the plan alternative designate private property for preservation, thus giving rise to a potential claim for just compensation under the Fifth Amendment?

42. To what extent will the plan alternative affect the cultural and historic resources in the area?

43. To what extent will the plan alternative meet the needs of the public?

44. To what extent will the plan alternative promote the economic development of the community?

45. To what extent will the plan alternative promote the general needs and welfare of the people?

Appendix A

Environmental Improvement Plan

Below is a list of federal and state statutes authorizing programs which HMDC may be able to make use of--either by securing benefits or using the statute as a model in developing a similar program--in developing its environmental improvement program.

Federal Programs:

- Coastal Zone Management Act, 16 U.S.C. §§ 1454, 1455, 1455a - Grants are available to coastal states for the development of a management program for land and water resources of the state's coastal zone. Grants are also available for implementation and administration of a local management program, and for assistance in the preservation or restoration of specific areas designated under the management program. It is not clear whether these grants could be available directly to local government entities such as the HMDC.
- Soil and Water Resources Conservation Act, 16 U.S.C. § 2005a - Technical assistance is available from the Department of Agriculture to property owners, agencies of state and local governments and interstate river basin commissions to protect the quality and quantity of subsurface water, and to reduce the vulnerability of certain property from floods that also may affect water resources. This program provides technical assistance from individuals rather than actual funds.
- National Ocean Pollution Planning Act, 33 U.S.C. §§ 1701-09 - Financial assistance in the form of grants or contracts are available for research and development and monitoring projects or activities which relate to ocean pollution research, with particular attention to "inputs, fates and effects" of pollutants in the marine environment. "Marine environment" is defined in the statute as "the coastal zone . . . ., the seabed, subsoil, and waters of the territorial sea . . . ."

- Solid Waste Disposal Act, 42 U.S.C. § 6914 - Grants are available to any public body or public/private joint venture in an amount equal to 5% of the purchase price of a tire shredder. A public body may receive the grant only if there is no private entity in the area interested in receiving the grant.

  Under this statute as well as the Clean Water Act, CERCLA, and the Safe Drinking Water Act, EPA regulations provide additional information for all grant applicants and recipients regarding applications, recordkeeping and reporting requirements, quality assurance practices, and closing out of the project.

- 42 U.S.C. § 6948 - Financial assistance is available to states, counties, municipalities, and intermunicipal agencies and local public solid waste management authorities for implementation of programs to provide solid waste management, resource recovery, and resource conservation services and hazardous waste management. Funds are available for activities such as facility planning and feasibility studies, expert consultation, technology assessments, legal expenses, construction feasibility studies, but may not include any actual construction costs or acquisition of land. All programs or projects undertaken with this financial assistance must comply with all applicable provisions of the Solid Waste Disposal Act relating to the upgrading of open dumping of solid waste or hazardous waste. Technical assistance from EPA is also available for the purpose of developing and implementing such programs.

- Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 U.S.C. § 9607(a)(4)(A), (B) - CERCLA provides for recovery from any PRP under the Act of all removal or remedial action costs incurred by the federal government or a state for the cleanup of a hazardous waste site, or for recovery of all necessary costs of response consistent with the national contingency plan incurred by any other person. Under these provisions, HMDC may be able to recover all removal or remedial action costs if it can be considered a "state" for purposes of this statute. Otherwise, HMDC could recover response costs incurred at any hazardous waste site from any PRP.

- 42 U.S.C. § 9607(a)(4)(C) - CERCLA also provides for recovery from PRPs for damages for injury to destruction of, or loss of natural resources, including the reasonable costs of assessing such injury, destruction, or loss resulting from such a release. Natural resources are defined as "land, fish, wildlife, biota, air , water, ground water, drinking water supplies, and other resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by . . . any state or local government . . . ." HMDC would have to be designated by the Governor of New Jersey as a trustee of the public resources in the District in order to take advantage of this provision. HMDC as trustee would then proceed against the PRPs; if unsuccessful against the PRPs, a claim against the Superfund may be possible although authorization does not currently exist to use the Superfund for natural resource damages. If the natural resource damages assessment is conducted pursuant to the relevant regulations, HMDC as trustee would have a rebuttable presumption in any administrative or judicial proceeding as to the validity of the assessment.

° 42 U.S.C. § 9617(e) - Grants are available under CERCLA to any group of individuals that may be affected by a release or threatened release at any National Priorities List ("NPL") site. The funds may be used to obtain technical assistance in interpreting information regarding the nature of the hazard, the remedial investigation and feasibility study, the record of decision, the remedial design, or similar steps in the cleanup process. The HMDC may be able to qualify for this assistance, if needed, for some of the hazardous waste sites located within its jurisdiction.

° Water Resources Research Act, 42 U.S.C. §§ 10301 - 10309 - Grants are available from the Department of the Interior, generally on a dollar-for-dollar basis, to agencies of local or state governments for research and technological development concerning any aspects of a water resource-related problem, including improvement of waters of impaired quality, which the Secretary of the Interior deems to be in the national interest. Examples of the types of research and development to which this program is intended to apply include aspects of the hydrologic cycle; supply and demand for water; conservation of water supplies; water reuse; depletion and degradation of groundwater supplies; and the economic, legal, engineering, social, recreational, biological, and ecological aspects of water problems.

- Clean Water Act, 33 U.S.C. § 1255 - Grants are available to municipal agencies under this statute for the development of projects which will: (1) demonstrate a new or improved method of preventing, reducing and eliminating discharges into any waters of pollutants from sewers which carry storm water or both storm water and pollutants, (2) demonstrate advanced waste treatment and water purification methods or improved methods of combined municipal and industrial waste treatment, and (3) demonstration of projects for the prevention of pollution of any waters by industry. All projects must be approved by the New Jersey Department of Environmental Protection and EPA. Grants may cover up to 75% of the actual costs of any project.

- 33 U.S.C. § 1321 - The Clean Water Act contains a provision similar to CERCLA's natural resource damages section which allows the President, or "the authorized representative of any State," to act as the trustee of natural resources on behalf of the public to recover the costs of replacing or restoring such resources when they have been damaged or destroyed as a result of an illegal discharge of oil or hazardous substances into the navigable waters of the United States or adjoining shorelines. Use of this provision by the HMDC may be problematic for several reasons. First, the HMDC may not be an "authorized representative of any State" for purposes of this provision. Second, this provision may not apply to discharges of oil or hazardous substances that took place or are taking place over a long period of time. Thus it may not be applicable currently to any sites within the HMDC's jurisdiction. Nonetheless, it is possible that this provision could be a useful one for the HMDC and it is worth exploring.

- 33 U.S.C § 1330 - Under this new section of the Clean Water Act, grants are available to state coastal zone management agencies or other public agencies to assist in research, surveys, studies, modeling and other technological work necessary for the development of a comprehensive conservation and management plan for an estuary determined by the EPA to be of national significance. Priority consideration is to be given to the New York-New Jersey Harbor, among other areas. Grants may cover up to 75% of the actual costs of any such studies, and the remainder of the funds must come from a non-federal source.

- 33 U.S.C. § 1282 - The Clean Water Act provides for grants to states, municipalities or intermunicipal agencies for the construction or improvement of wastewater treatment works, new interceptors, infiltration-inflow correction, and related sewer system evaluation studies. The grants may cover only up to 55% of the actual construction costs. In addition, the funding for this program is currently being cut back. Although treatment plants already exist for the municipalities within the HMDC, we have been informed that the Bergen County Utility Authority plant is in need of upgrading, and that there are many combined wastewater/storm water overflow pipes within the sewer system, separation of which would be beneficial. Thus, the HMDC may wish to consider this program as a possible source of funding for the improvement of water quality within its jurisdiction.

- 33 U.S.C. § 1288 - Section 208 of the Clean Water Act provides for the establishment of areawide waste treatment management areas, and organizations responsible for the development of management plans for those areas. The plans are to address necessary waste treatment facilities, alternative waste treatment systems, wastewater collection and storm water runoff systems, open space and recreation opportunities as a result of improved water quality, and control of the disposition of all residual waste generated in the area which could affect water quality. It is our understanding that there is a non-functioning section 208 organization which includes the HMDC. Because a section 208 organization is responsible for an areawide plan, it may be an appropriate vehicle for the HMDC to carry out some of its environmental improvement goals. The HMDC may want to consider exploring the possibility of reviving the section 208 organization and perhaps reducing its jurisdiction to include the Meadowlands District only.

- Safe Drinking Water Act, 42 U.S.C. § 300j-3(a) - Under this provision, grants are available to public sector agencies assisting in the development and demonstration of projects relating to new or improved technology for dependable safe drinking water supplies to the public, or for investigation and demonstration of the health implications of the reclamation, recycling, and reuse of wastewaters for drinking. Grants may cover up to 66 and 2/3 % of actual construction costs and up to 75 % of all other costs.

New Jersey Statutes:

- N.J. Spill. Compensation and Control Act, N.J. Stat. § 58:10-23.11 - The Spill Act prohibits the discharge of hazardous substances and provides remedies for the state against those responsible. The Spill Act provides that any governing body of a municipality that cleans up a site on the State's master list of hazardous discharge sites shall be reimbursed for cleanup costs. The municipality's cleanup plan must first be approved by the State. Under this program, the HMDC could undertake the cleanup of some sites within its jurisdiction and be able to be reimbursed for all expenses.

- Environmental Aid Act, N.J. Stat. § 13:1H-1 - Grants of up to $2500 per year are available to a "local environmental agency" for the preparation of an "environmental index." A "local environmental agency" includes a municipal or county environmental commission or a soil conservation district. An "environmental index" is a report on the environmental conditions within a locality and the community objectives concerning open areas, parks, water supply, solid waste, wildlife protection, soil resources, air pollution, water pollution, and other similar subjects. Although the HMDC may not fit squarely within the definition of the eligible recipients under this statute, it may be worthwhile considering this source of funding for some smaller projects.

- Aid for Urban Environmental Concerns Act, N.J. Stat. § 13:1H-8 - Grants of up to $10,000 are available to an "environmental agency" for projects addressing urban environmental concerns, including flowering gardens and trees, neighborhood sitting places, and recreation areas. An "environmental agency" includes a municipal planning department, municipal environmental commission or city parks department. The grant may cover up to 80% of actual project costs. The area where the project will take place must be an "eligible municipality" under N.J. Stat. § 52:27D-178, which includes one with a population over 10,000 per square mile and certain minimum numbers of children receiving public assistance. Because some of the areas within the HMDC may be qualified under this section, the HMDC may consider pursuing this source of funding for some smaller projects.

- N.J. Green Acres Land Acquisition and Recreation Opportunities Act, N.J. Stat. § 13:8A-35 - The New Jersey Commission of Conservation and Economic Development is authorized to make grants to municipalities, counties or other political subdivisions of a state to acquire and develop lands for recreation and conservation purposes. Grants may cover up to 50% of the actual costs of any such project. The funds are derived from municipal bonds issued under the Green Acres Bond Act, N.J. Stat. § 7:36-1.1-7.1. The Bond Act also provides for loans for up to 100% of the cost of acquisition and development of lands for recreation and conservation purposes. Loans are given based on criteria such as whether the projects will serve multi-recreational and conservation purposes, whether they will serve a wide variety of citizens, and whether they will provide for special needs of groups such as the handicapped and elderly. There are certain design criteria that must be met for any project.

- Shore Protection Program, N.J. Admin. Code tit. 7 Chap. 7-F - Under this program, grants or loans are available for certain proposed shore protection programs if the area is considered a priority by the State. The grant may cover up to 75% of the actual costs of the program. Eligible costs include research and development, design, acquisition of easements, monitoring of the project including consulting engineers' fees, and construction. Any program must be in compliance with the State's Rules on Coastal Resource and Development Policies, and the local government receiving the grant also must have irrevocably committed funds for the project. Because of coastal nature of some areas within the HMDC jurisdiction, this program may be worth pursuing as a source of funding.

- Solid Waste Management Act, N.J. Stat. § 13:1E-1, § 13:1E-30 - Under this provision, state aid is available to any person engaged in solid waste collection, disposal or utilization, as long as the project is approved by the State or the HMDC and is within the scope of the HMDC solid waste management plan. Priorities are given to experimental projects with long-term beneficial effects. Arguably this program was not intended to allow the HMDC to receive grant funding, although a creative argument might be made that the HMDC could formulate its own projects to further its solid waste management program and thus receive funding from this source.

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Testimony of

John F. Smolko, Jr.

Group Manager, Government and Legal Affairs

before the

House Public Works and Transportation Committee

Subcommittee on Water Resources

Tuesday, March 13, 1990

Thank you for this opportunity to testify on what will be one of the most important issues of the 1990's. I am John F. Smolko, Jr., Group Manager of Government and Legal Affairs for Ducks Unlimited.

The value of wetlands is unquestioned. On several occasions, the most recent being in the North American Wetlands Conservation Act, Congress has found and enumerated the many values and benefits of wetlands. These benefits accrue not only to wildlife, or to sportsmen, or to nature-lovers, but to society as a whole.

Yet wetlands continue to be lost or destroyed, at a rate of nearly one-half million acres each year. Wildlife suffers, and taxpayers continue to shoulder the resultant costs of flood control and protection, groundwater pollution, erosion and stream sedimentation, salt water intrusion, sewage treatment, water purification, and much more.

After making it a part of his campaign pledge in 1988, President George Bush again promised to achieve no net loss of wetlands in his remarks to Ducks Unlimited's Sixth International Waterfowl Symposium last spring. President Bush mentioned no net loss again last December as he signed into law the North American Wetlands Conservation Act. As we are all aware, however, there is confusion about what no net loss means, or perhaps more appropriately, what it should mean.

Ducks Unlimited has been involved in the wetlands protection battle for more than a half century. At the time of our founding in 1937, we recognized that North American wild waterfowl populations would never be secure without an adequate base of clean and properly functioning wetlands upon which waterfowl depend for breeding, migration and wintering habitats. Today over 500,000 members throughout the U.S. can boast of more than 4,800 projects encompassing over 5,300,000 acres. Ducks Unlimited was involved with the development and writing of the North American Waterfowl

Management Plan which was signed by the United States and Canada in May, 1986. As you know, this Plan calls for protecting, enhancing and modifying land use of nearly six million acres in the U.S., Canada and Mexico. The Plan's objectives will not be achieved solely by land acquisition, although acquisition is a small though important part, but rather by cooperative arrangements among and between federal, state and provincial agencies, private organizations and individual landowners. An important part of the Plan's overall program involves the modification of existing wetlands to increase their ability to meet waterfowl habitat needs. Ducks Unlimited has been, and intends to continue to be, a full partner in implementing the Plan and securing a future for waterfowl and the multitude of other species which depend on wetlands.

No net loss will not be achieved by compensatory mitigation alone. Avoiding destruction of existing wetlands should be top priority. In many cases projects proposed for development in wetland areas are not dependent upon the wetland for success. In other words most projects are not harbors, marinas and the like. Many projects can and should be developed on non-wetland sites, even though such sites may involve greater initial cost to project proponents.

The recently concluded Memorandum of Agreement between the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency, received a late but certainly worthwhile review by the White House. Needless to say, that intervention was fraught with controversy. But I think each of us recognizes that the 1990's will be the environmental decade and positive achievements will require the cooperative efforts of industry, governments, individuals and organizations. Input by all interested parties, just as this Committee is providing, is essential if we are to develop sound environmental policy compatible with economic prosperity.

The Memorandum of Agreement contains many worthwhile provisions. Not the least of these is the sequencing of mitigation. The wetland destroying impacts of a project must first be avoided altogether if possible as explained previously; next, if projects cannot be relocated, project impacts must be minimized; last, unavoidable impacts must be compensated for by means of restoration or enhancement of other wetlands. The willingness of a project proponent to adhere to this last step must not however be seen as requiring the Corps or EPA to issue the appropriate permits to proceed with project development. Said another way, the intent or ability to pay the cost of protecting or restoring a wetland elsewhere, does not give the project proponent any rights to destroy wetlands at will, or to expect permit issuance. Avoidance of wetlands loss is always the preferable alternative.

Neither must no net loss be solely a number goal, nor an acreage goal. Ten wetlands (or ten thousand, or ten million), or ten acres of wetlands in Arkansas are generally not the equivalent of ten acres of wetlands in Maine or five in Alaska and five in Florida. There are many different kinds of wetlands, each with special functions and values.

Ducks Unlimited recognizes that no net loss likely cannot be fully accomplished on a strictly local basis. Appropriate restoration opportunities may not be available in the local area if available at all, and creating the full range of wetland functions and values on a non-wetland site is far from certain. Fortunately the North American Waterfowl Management Plan, the National Wetlands Inventory, the National Wetlands Priority Conservation Plan, and EPA's Advanced Identification Program for Wetlands identify the broad landscape areas which could benefit most from wetland restorations. Certainly it is possible, and perhaps even preferable to focus compensatory mitigation efforts in these areas whenever restoration opportunities are unavailable in the area of the disturbance.

The modification or enhancement of wetlands to achieve national or regional conservation or wildlife goals should not be viewed as wetlands loss or destruction as is sometimes the case at present. For example the alteration of the water regime (e.g. raising or lowering water levels, construction of nesting islands, or internal diking for management) of a locally common wetland type to create a locally less common type, and thus increase the diversity of local wildlife or to achieve other wildlife goals, should be encouraged.

In our view, one of the tasks of this Committee should be to develop incentives, and streamline the regulatory process for those individuals and organizations undertaking wetland enhancement and restoration activity. This is an evolutionary step in the 404 program. The 404 permitting process is to protect against wetland loss and provide for mitigation. It is now time to implement a simplified permitting process in cases where the threat is not the loss of a wetland. Rather, the goal is enhancement and restoration to improve the functional values of the wetland.

More bluntly, it should be possible, and even encouraged, for federal or state wildlife agencies or conservation organizations to elevate the value of specific wetlands in order to generate greater wildlife benefits. The construction of nesting islands or the construction or rehabilitation of water control structures must be viewed in the context of wetland enhancements. In their recent agreement, the Corps and EPA recognize the viability of this process by making allowance or special consideration when they agree that the work "can reasonably be expected to result in environmental gain." And such wetland enhancements are environmental gains.

While continued wetland losses are to be avoided, wetland gains should not be offset simply because the goal is no net loss. Implicit in the no net loss goal is eventually to achieve an increase in wetlands and their beneficial functions. This should not be construed as a denigration of the mitigation banking concept. It does not, however, seem appropriate for one party's wetland gains to be offset by another party's destruction. For example, if Ducks Unlimited restored 1,000 acres of wetlands (which it is wont to do), a nearby landowner or developer should therefore not enjoy a privilege of destroying 1,000 acres of wetlands because a "surplus" happens to be available. Those who intend to destroy wetlands must be tightly held to the full range of mitigation requirements.

Such a situation as just described exists under the provisions of North Dakota's no net loss legislation. The program is operated much like a bank, with withdrawals and deposits. The problem is that the only interests making deposits (wetland restorations) are Ducks Unlimited and the U.S. Fish and Wildlife Service. Withdrawals are mainly in the form of drainage for agricultural expansion (and in spite of the Swampbuster provisions of the 1985 Farm Bill). Under the North Dakota law, wetland despoilers are required to pay only ten percent of the cost of restoration.

Wetland restorations done in the public interest (such as those undertaken by Ducks Unlimited and Fish and Wildlife Service among others) must be held outside the no net loss parameters. Those who cause wetland destruction or deterioration must mitigate in full by also being creditors.

The agriculture sector should no longer have opportunities to drain wetlands at will. It is our hope that the 1990 Farm Bill will make the actionable offense the draining of wetlands rather than the planting of an annual crop on drained wetlands.

This is a subtle distinction but one that is important. Agriculture has much to gain by maintaining healthy and functioning wetlands, and farmers should be full partners in achieving no net loss. However, those agriculture producers who fully protect their wetlands or who restore or enhance wetlands or their private property are entitled to compensation.

As we all are aware, wetlands serve many functions and provide many benefits beyond wildlife to the public. Therefore it does seem appropriate for private stewards of wetlands and their values to receive just compensation. Ducks Unlimited intends to encourage the inclusion of such a program in the 1990 Farm Bill soon beginning debate.

No net loss of wetlands, including their functions and values, is a laudable goal. It also is an achievable goal provided that all parties involved are held to equal standards of compliance. Ducks Unlimited stands ready to assist in the further development and implementation of a no net loss policy.

TESTIMONY OF ROBERT E. STEINBERG

SUBMITTED ON BEHALF OF

NATIONAL ASSOCIATION OF INDUSTRIAL AND OFFICE PARKS INTERNATIONAL COUNCIL OF SHOPPING CENTERS

Mr. Chairman, my name is Robert E. Steinberg. I am a partner with the law firm of Porter, Wright, Morris and Arthur. I am appearing before you today on behalf of the National Association of Industrial and Office Parks and the International Council of Shopping Centers, two major trade associations, which represent many of the large developers, owners, and managers in the nation. We have worked jointly to identify problems in the wetlands permit process faced by their members and to develop proposals for reform.

The wetlands permit process has been a source of great frustration for our member companies. The permit process requires an applicant to maneuver through a maze of complex regulatory requirements which are often ambiguous and inconsistently applied. The wetlands permit process is governed by numerous federal and state laws, implemented by a myriad of federal and state agencies. It frequently results in long delays. Moreover, because the U.S. Environmental Protection Agency ("EPA") may override Corps determinations in some instances, our members can never be sure that, after years of environmental studies and analysis, and heavy financial commitments, EPA will not intervene at the eleventh hour and require drastic changes in a proposal or even threaten to veto the proposal.

Given these concerns, each of our association independently formed a Wetlands Task Force to study problems in the wetlands permit process and recommend solutions. I am pleased to provide to this committee the "Wetlands Policy Recommendations" developed jointly by our Wetlands Task Forces.

We would urge this Committee to consider these proposals and adopt our suggestions which are designed to help attain the national goal of "no net loss" of wetlands, ensure approval of projects which provide both environmental and socio-economic benefits and, remove or reduce delays, uncertainties and inequities in the wetlands permit process.

We must emphasize that we strongly support efforts to curb losses of wetlands resources and to attain the goal of "no net loss" of wetlands in the short-term and to increase the inventory of wetlands in the long-term. Wetlands areas can serve vital environmental functions and we must work to preserve these valuable resources. However, in developing a national strategy to protect wetlands, we must strike an appropriate balance between the necessity for wetlands protection and the socio-economic needs of local communities.

I would be happy to respond to questions from the Committee.

Thank you.

WETLANDS

POLICY

RECOMMENDATIONS

On Behalf
of

National Association of Industrial and Office Parks
International Council of Shopping Centers

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SUMMARY OF KEY PROPOSALS FOR REFORM OF THE FEDERAL WETLANDS PERMIT PROCESS
NATIONAL ASSOCIATION OF INDUSTRIAL AND OFFICE PARKS WETLANDS TASK FORCE
AND
INTERNATIONAL COUNCIL OF SHOPPING CENTERS WETLANDS TASK FORCE

The National Association of Industrial and Office Parks ("NAIOP"), and the International Council of Shopping Centers ("ICSC"), trade associations representing thousands of professionals involved in developing, planning, financing, and managing industrial and office park properties and shopping centers, have formed two Wetlands Task Forces ("NAIOP and ICSC Wetlands Task Forces") to study problems faced by landowners under federal wetlands laws and regulations, and to make proposals for legislative and regulatory reform. The Task Forces have made a number of recommendations for reform of the wetlands permit process which are designed to: (1) help attain the national goal of "no net loss" of wetlands; (2) ensure approval of projects which provide both environmental and socio-economic benefits; and (3) remove or reduce delays, uncertainties and inequities in the wetlands permit process. The recommendations include both procedural and substantive reforms.

A. Procedural Reforms

The NAIOP and ICSC Wetlands Task Forces recommend that President Bush issue an Executive Order that would require the following:

1. The Corps would be required to make its permit decision in a timely manner, preferably within 120 days after receipt of a completed permit application. The EPA would be required to publish a notice of objection to issuance of the Section 404 permit at least 30 days prior to the Corps' deadline;

2. The Corps would be required to make an economic determination at the outset of the permit process as to available and feasible alternative sites;

3. Should EPA decide to exercise its Section 404(c) authority after the Corps has determined to issue a permit, EPA would file a petition with CEQ and shall bear the burden of showing that the Corps erroneously determined that a permit is "not contrary to the public interest" or that the Corps' actions are otherwise not in accordance with law or applicable statutory procedures; and

4. The Corps and EPA would be required to revise the Section 404(b)(1) Guidelines to clarify standards for permit review and incorporate permit decision time frames set forth above.

B. Substantive Reforms

The NAIOP and ICSC Wetlands Task Forces recommend the following substantive reforms to the wetlands permit process:

1. The permit process would be modified to account for the value and functionality of wetlands. Wetlands would be classified on a qualitative basis into four value categories, and the scope of alternatives analysis and mitigation standards would be dependent on the wetland's value category.

2. The availability of a nonwetland alternative site would be determined as of the time the applicant submitted its first application for a permit or variance in connection with the proposed project.

3. Limitations would be placed on demands federal agencies can make with respect to the amount of mitigation, including monitoring and buffer requirements, that can be required in connection with a permit so that mitigation is not disproportionate to the function and value of wetlands that would be lost due to the proposed activities or with what is necessary to ensure environmental protection.

4. Congress would define circumstances under which a landowner should be entitled to compensation when a Section 404 permit is not obtained.

POSITION PAPER ON REFORMS TO THE WETLANDS PERMIT PROCESS
WETLANDS TASK FORCE
NATIONAL ASSOCIATION OF INDUSTRIAL AND OFFICE PARKS
INTERNATIONAL COUNCIL OF SHOPPING CENTERS

The National Association of Industrial and Office Parks ("NAIOP"), and the International Council of Shopping Centers, trade associations representing thousands of professionals involved in developing, planning, financing, and managing industrial and office park properties and shopping centers, have formed two, Wetlands Task Forces ("NAIOP and ICSC Wetlands Task Forces") to study problems faced by landowners under federal wetlands laws and regulations, and to make proposals for legislative and regulatory reform.

I. Overview

Composed of citizens concerned about environmental protection, the NAIOP and ICSC Wetlands Task Forces strongly support Congressional and Administration efforts to curb losses of wetlands resources, and to attain the goal of "no net loss" of wetland area and function in the short-term, and increase the inventory and function of wetlands in the long-term. Swamps, wet meadows, marshes, bogs, and other wetland areas do serve critical environmental functions, and it is imperative that we take immediate steps to preserve our wetlands resources.

Notwithstanding the foregoing, it must be recognized from the outset that given the large number of areas that fall within the federal wetlands regulatory program, across-the-board restrictions on development in wetlands will ignore important public needs and have devastating economic repercussions. There are significant socio-economic issues that go beyond strictly financial considerations that must not be ignored. Our federal and state roadway transportation systems are in desperate need of repair and there is a continuing demand for new residential and commercial buildings in previously undeveloped areas of our nation. Across the board restrictions on development in or near wetlands will have a devastating impact on these industries, which in turn will strike a serious blow to our socio-economic well-being. Indeed, the need for across the board restrictions must be questioned on a historical basis as it is widely known - but rarely stated - that the majority of wetlands have been altered in the past through agricultural activities, and only a minority of wetlands losses have occurred because of development projects. Accordingly, we cannot and should not implement a ban on all future development in or near wetlands, or make federal permits for such development virtually impossible to obtain by turning the wetland permit process exclusively into a wetlands preservation program.

In developing a national strategy to protect wetlands, there must be an appropriate balance between the need for wetlands protection and the socio-economic needs of American communities. Wetlands are a dynamic natural resource which change in response to natural and man-induced impacts. A few wetlands are unusual, unique or highly valuable for particular reasons. These wetlands must be identified and preserved and no development allowed to adversely impact them. But most wetlands are of intermediate functionality, worthy of protection through regulatory processes, but also capable of being managed so that development and the goal of "not net loss" can be achieved. A wide variety of tools must be available to the developer and wetlands regulators to achieve the goals of economic growth and "no net loss" of wetlands.

Many portions of the nation's landscape contain large areas of wetlands, such as the glaciated Northeast and Midwest and the Southern coastal low-lands. In these regions, among others, large or complex development project sites almost always contain wetlands. Although avoidance of wetlands is the primary site design criterion, often site constraints, design constraints and other laws force projects into wetlands. However, no responsible developer purposely designs his or her projects to take wetlands!

In order to have continued growth of the Gross National Product, some wetland areas will be impacted by development, as it is impossible to have all projects totally avoid wetlands. Therefore, society must accept these wetland takings and allow the necessary tools to be available to wetland managers to offset these wetland losses. A wide variety of wetland mitigation methods need to be available for the task of meeting the "no net loss" goal because no "cure all" method is applicable to the wide variety of wetland and impact types that occur. With time, as the base of scientific knowledge regarding wetland functions and successful mitigation methods expands, the goal of no net loss can be achieved. The development industry, the regulatory agencies and the environmentalists, however, must reach a common ground, on which properly designed development occurs, while protecting and managing our critical wetland resources in balance with economic and social needs. In making changes to the wetlands permit process and wetlands policies, the government should ensure that permits can be granted for development projects which will positively impact demonstrated socio-economic needs of local communities (such as housing, job-generating industry, transportation and cultural facilities), particularly when an applicant agrees to engage in or fund mitigation projects, as an off-set to losses of wetlands acreage and function.

The NAIOP and ICSC Wetlands Task Forces also believe that the government must take steps to reduce uncertainties, delays, and inequities in the current wetlands permit process. The federal wetlands permit process has become, at times, convoluted and unpredictable. Some landowners face long delays in obtaining even simple permits, and government officials at times are not required to meet any deadlines for permit decisionmaking. Moveover, permit applications are reviewed under numerous environmental laws implemented by a myriad of federal, state, regional and local agencies, each of whom seems to approach the permit process with separate and distinct sets of policies and biases. Existing standards governing when an alternative nonwetlands site will preclude development, or what type of mitigation or how much mitigation will be required, are often ambiguous and may be applied with little, if any, consistency, while positive economic impacts associated with a project are essentially ignored.

Recent proposals to regulate even more activities in wetlands, to require "sequencing" of permit decisions and to implement the "no net loss" policy will likely exacerbate the delays, uncertainties, and inequities of the current permit program. For example, the National Wetlands Policy Forum has recommended that even more kinds of activities in wetlands be subject to federal permit requirements and that mitigation be required for some activities which are currently permitted without any measures to off-set losses of wetlands acreage. Federal, state and local wetland regulatory agencies are seriously understaffed to fully carry out their responsibilities. To even meet the present regulatory requirements these agencies need additional funding to improve their staff size and capabilities. The Congress and the Administration must recognize that environmental regulatory programs which are underfunded and poorly staffed do not properly serve either the development or environmental interests of the American society. Given its current staffing constraints, the Corps would likely experience significant difficulty in keeping pace with the tremendous increases in its permit workload which would likely result from the foregoing proposals.

In view of these problems, the NAIOP and ICSC Wetlands Task Forces have developed a set of basic principles to guide the Congress and the Administration in modifying the federal wetlands permit process. The NAIOP and ICSC Wetlands Task Forces also have developed a set of procedural reforms to the wetlands permit process, which they recommend be adopted by a Presidential Executive Order, as well as proposals for substantive reforms.

II. GUIDING PRINCIPLES FOR MODIFYING THE WETLANDS PERMIT PROCESS

As various proposals for changes to the wetlands permit process are considered both at the administrative and legislative levels, it is crucial that certain principles guide determinations on how to modify the permit process. The principles include a recognition that: (1) the goals of "no net loss" of wetlands and an increase in or enhancement of socio-economic benefits will only be achieved if we make provision for compensatory mitigation as an acceptable off-set to wetlands losses; (2) requirements for avoidance of wetlands must be tied to the value and functionality of the wetland, and not prevent projects that will have both environmental and socio-economic benefits; and (3) modifications to the permit process should reduce or remove -- rather than exacerbate -- delays, uncertainties, and inequities.

A. Mitigation Is An Essential Mechanism to Achieve "No Net Loss

To attain the goal of "no net loss," the National Wetlands Policy Forum Report recommends a wide array of programs, including acquisitions of wetlands acreage through trust funds and protection of wetlands through payments to farmers (but not other landowners). Given current federal budgetary constraints, these measures alone are unlikely to stabilize, much less increase, the national inventory of wetlands. Even if all the proposals of the National Wetlands Policy Forum were to be adopted, tremendous on-going losses of wetlands acreage will continue to occur due to exemptions from the permit process for such activities as farming and silviculture, and from conversion of wetlands acreage caused by natural environmental changes.

Given the amount of wetlands acreage that will be lost due to exemptions and natural conversions, the NAIOP and ICSC Wetlands Task Forces believe that government should take full advantage of a "market" approach, in which the private sector will opt, through a program of incentives, to enhance and increase our inventory of wetlands. Throughout our country, there are a number of successful wetlands creation and restoration projects already in place. By encouraging developers to engage in compensatory mitigation to off-set losses of wetlands, the private sector can make a significant contribution to help stem the loss of wetlands acreage, and fund the restoration and creation of additional wetland resources. Compensatory mitigation should not be considered as a last resort, but rather as a prudent mechanism and an integral part of our Nation's efforts to attain "no net loss" of wetlands.

B. Not All Wetlands Should be Protected in the Same Manner

Under the current system for regulating wetlands, pristine wetland areas of high ecological value are regulated in the same manner as wetlands of limited ecological value. In many instances, the value and functionality of a wetlands area is not even considered in the permitting process, resulting in the permit applicant being subjected to the same permit procedures and the same burdens of proof regardless of the wetland value and function. The value and functionality of the wetland only come into play very late in the process when considering the amount and type of any necessary compensatory mitigation. Under the so-called "sequencing" approach (endorsed by the National Wetlands Policy Forum), compensatory mitigation will only be considered as a last resort, after a permit applicant has shown that alternative nonwetland sites are unavailable and not feasible, and that avoidance of the wetlands is not possible. Some agencies are already utilizing the "sequencing" approach and many applicants are given little or no guidance on how this approach is to be applied.

We believe that the "sequencing" approach will not further the mutual goals set forth above of achieving "no net loss" while obtaining and enhancing economic growth. First, it places an arguably insurmountable burden on the permit applicant in requiring proof of a negative -- that no other site is feasible. Second, if the Corps is not permitted to take into account proposed mitigation measures, and the functional values of the existing wetlands "up-front", a permit denial may well be a foregone conclusion because construction in a wetlands will almost invariably have more adverse environmental impacts (at least with respect to wetlands) than construction in an upland area.

Foreclosing "up-front" consideration of proposed mitigation as well as consideration of the value and function of existing wetlands also may not serve environmental interests. Particularly where a developer's project may affect low value wetlands, proposed mitigation measures may have significant environmental benefits and thus actually enhance the inventory of functional wetlands. However, under the present "sequencing" approach concept, the Corps is not permitted to consider either potential environmental benefits or potential socio-economic benefits in making a determination that the project is not contrary to the public interest. Rather, the Corps is forced to make a determination for permitting purposes based only on a narrow analysis as to whether alternative sites exist or whether avoidance of wetlands (without regard to value) is possible. We believe this approach is contrary to Congress' direction and regulatory standards that require the Corps to make a permit determination based on the overall "public interest" and not on narrow economic or even purely environmental concerns.

A simplistic approach to wetlands permits, which rigidly mandates avoidance of wetlands, even when those wetlands are of low or limited value and the project is urgently needed in a local community, is bad public policy. Such a policy can result in numerous, adverse socio-economic impacts, not only by preventing construction of an economically-vital project, but also by increasing urban density and transportation problems. Requiring avoidance of wetlands, even when contrary to the overall public interest, also will inhibit achievement of "no net loss" because it eliminates a key mechanism by which we can help increase our inventory of wetlands -- by requiring developers to restore, enhance, and create wetlands in exchange for allowing some conversion of wetlands acreage. We cannot define "no net loss" in primarily quantitative terms if we are to find creative solutions to enhance the quality of our wetlands resources.

C. Delays, Uncertainties, and Inequities In the Wetlands Permit Process Must Be Removed

The National Wetlands Policy Forum Report focuses little attention on regulatory problems in the increasingly complex and imprecise Section 404 permit process. The permit process now requires an applicant to maneuver through a maze of complex regulatory requirements which often are ambiguous and inconsistently applied. While wetlands regulations set a goal for completing the permit process in ninety days, a determination for a simple permit may often take six months, and a determination for a more complex permit may take two to three years. Moreover, the standards of review are unclear and the burden on the permit applicant will vary from one area to the next, and even within the same area. In some areas, the permit decisionmakers have already adopted (without notice and comment rulemaking) a sequencing approach under which mitigation is not considered until the applicant meets stringent tests proving that an alternative nonwetlands site was not available and feasible, and avoidance is not possible. In other areas, the permit decisionmakers allow virtually any project to proceed, as long as sufficient mitigation is proposed to off-set losses of wetlands. As far as mitigation measures are concerned, there is no uniformity, with developers being required to provide anywhere from 1 to 1 mitigation to 12 to 1 mitigation to compensate for losses to wetlands.

Equally troubling is the fact that the permit process does not have a single decisionmaker. Because the U.S. EPA has, in some circumstances, a "veto" power over the actions of the Corps, a permit applicant can never be sure that, after two years of environmental studies and analysis, and heavy financial commitments, EPA will not intervene at the eleventh hour and require drastic changes in the proposal or even threaten to veto the proposal. Moreover, EPA's apparent criteria for decision-making may vary from or even be inconsistent with those used by the Corps.

Delays and uncertainties in the wetlands permit process may be substantially increased if certain recommendations of the National Wetlands Policy Forum are adopted without proper attention to the administrative problems they likely will create. Perhaps most significantly, the Forum Report appears to endorse mitigation requirements for all regulated activities, including those now covered under the Corps' nationwide permit program. Given that the Corps, as presently staffed, is unable to handle its current workload, the administrative burdens associated with even this one change in the current program must be carefully considered. At the very least, any mitigation requirements relating to nationwide permits should be self-executing; case-by-case agency approval should not be required before the landowner may undertake the regulated activity.

III. PROPOSALS FOR REFORM

A. Procedural Reforms

The NAIOP and ICSC Wetlands Task Forces strongly urge President Bush to issue an Executive Order to make procedural changes to the wetlands permit process to improve review procedures, provide for more orderly consideration of permit applications, and reduce uncertainties. These changes include the following:

1. Deadlines

The President would require that the Corps make a final determination on whether to grant, deny or condition a Section 404 permit in a timely fashion, preferably within a period no later than 120 days after receipt of a completed permit application. The U.S. EPA must notify the permit applicant and publish a notice of any objection to issuance of a Section 404 permit in the Federal Register at least 30 days before the deadline for the Corps to make its final determination.

2. Practicable Alternatives Determination

The President would require that the Corps, prior to its public interest determination and final agency consideration of environmental impacts, make a proposed economic determination identifying any practicable nonwetlands alternative site for a proposed project, and publish a notice of the proposed determination in the Federal Register, within thirty (30) days after receipt of a completed application. Interested members of the public, which includes all public agencies, groups and individuals known to have an interest in the proposed action, would then have thirty (30) days to comment on the proposed determination. After full consideration of comments received, the Corps must publish in the Federal Register a final determination, which must be accepted by other federal agencies, within sixty (60) days after publication of the notice of availability of the proposed determination on practicable alternatives.

3. Dispute Resolution

The President would require that, within ten days after publication of a notice of objections to issuance of a Section 404 permit in the Federal Register, the U.S. EPA shall file a petition with the Council on Environmental Quality stating the reasons for its objection to issuance of a Corps permit. U.S. EPA shall bear the burden in such proceeding of showing that the Corps' actions are unreasonable or otherwise not in accordance with law. The Council on Environmental Quality shall issue procedural guidelines that will govern such proceedings within sixty (60) days after this Order is entered. CEQ decisions on EPA petitions could be reviewed in the United States Court of Appeals for the District of Columbia Circuit or through inverse condemnation proceedings in the U.S. Court of Claims.

4. Regulatory Modifications

The President would require that the EPA Administrator, in conjunction with the Secretary of the Army, shall review the Section 404(b)(1) Guidelines to determine how to clarify when an alternative nonwetland site will be considered practicable to a permit applicant and capable of meeting overall project purposes, and to establish standards governing mitigation of adverse environmental consequences resulting from wetlands permits. Proposed modifications to the Section 404(b)(1) Guidelines shall be promulgated in the Federal Register within ninety (90) days, and a final rule shall be promulgated within one hundred eighty (180) days, after this Order is entered.

B. Substantive Reforms

The NAIOP and ICSC Wetlands Task Forces also recommend key substantive changes to the wetlands permit process. These changes include the following:

1. Modify the Permit Process to Account For the Value and Function of Wetlands

The NAIOP and ICSC Wetlands Task Forces recommend that the permit process be modified so that the alternative analyses and mitigation requirements would differ depending upon the value and function of the wetlands resources, and that permit decisionmaking become based more on qualitative rather than quantitative factors. In this way, the permit process could ensure that high value, pristine wetlands areas are appropriately protected and that permits will not be denied for development projects which are found to be consistent with the public interest. Such consistency could be demonstrated by an ability to meet socio-economic needs of the local community and by the absence of adverse environmental impacts, given the mitigation measures proposed by the applicant.

To implement this change in the permit process, the Corps would require that a permit applicant not only delineate the wetlands acreage, but also evaluate the wetlands value and its function. The Corps, in conjunction with the U.S. EPA, Soil Conservation Service, and U.S. Fish and Wildlife Service, would develop guidelines under appropriate rulemaking procedures in which wetlands would be classified under four value categories. Such classification systems have been developed and used by many state resource agencies, and also by the U.S. Fish and Wildlife Service. The classification of wetlands into four value categories could then serve as a basis for determining the stringency of the alternatives analysis and standards for mitigation.

For wetlands in the highest value category, the most stringent alternatives analysis and avoidance analysis would apply, and requirements for compensatory mitigation also would be at the highest level. Corps approval would be required for mitigation measures for activities subject to general permits.

For wetlands in the mid-range value categories, the decisionmaker would consider proposed mitigation measures, even when an alternative site is practicable and avoidance is feasible, in determining whether the project is not contrary to the public interest. Mitigation standards would be less stringent than for wetlands in the highest value category. Case-by-case Corps approval of mitigation measures for general permits would not occur; rather, the applicant would be required to certify, to the best of his knowledge and belief, that the mitigation measures will result in, at a minimum, a similar functional replacement of affected wetlands by enhancing, restoring, or creating wetlands acreage which have similar functions and values.

For wetlands in the lowest value category, the permit applicant would not submit, and the government would not undertake, an alternatives analysis or avoidance analysis. Compensatory mitigation could be required in connection with any individual permits issued. General permits could be issued based on monetary contributions to a fund which would be used to acquire valuable wetland areas or to enhance and restore wetland resources.

2. Alternative Analysis

In addition to the changes suggested in Paragraph 1, the NAIOP and ICSC Wetlands Task Forces recommend that for the high and mid-range value levels, the availability of a nonwetland alternative site will be determined as of the time the applicant submitted its first application for any permit or variance in connection with the proposed project, rather than as of the time of initial planning or market entry. Moreover, EPA would not be permitted to exercise its authority under Section 404(c) based on a unilateral determination that there is an economically practicable alternative nonwetland site or that avoidance of wetlands is economically feasible.

3. Mitigation

In addition to the changes suggested in Paragraph 1, the NAIOP and ICSC Wetlands Task Forces recommend that regulatory language be adopted stating that the amount of mitigation required cannot be disproportionate to the amount of wetlands and their functions that would be lost due to the proposed activity. Moreover, different standards should be set for: (1) mitigation under general permits for mid-range and lowest value wetlands areas; (2) possible mitigation for individual permits in lowest value wetlands areas; (3) mitigation for individual permits in mid-range value wetlands areas; and (4) mitigation in high value wetlands areas. With respect to monitoring requirements and buffer requirements to ensure that mitigation proposals are appropriately implemented and wetlands are protected, the NAIOP and ICSC Wetlands Task Forces recommend that federal regulations specifically provide that such requirements not exceed what is required to ensure that the applicant implemented all mitigation measures required under the permit, and to protect the value and function of the wetland area.

4. Takings

The NAIOP and ICSC Wetlands Task Forces recommend that Congress set standards for when denial of a Section 404 permit, or prohibition on discharges into certain waters of the United States by EPA, constitutes a taking. Those instances where Congress could require compensation be paid might include:

(1) where an applicant for a Section 404 permit acquired land containing wetlands prior to the date in which the Corps implemented the Section 404 program, and the applicant is now precluded from developing the wetlands areas;

(2) where the applicant has offered in the permit application to compensate for loss of wetlands acreage to the extent that the mitigation measures will provide a net increase in acreage of wetlands with higher or similar functions or values; and

(3) where the only viable use of a parcel of property is for donation for a public purpose such as a park, wildlife refuge, or other similar function.

5. State Delegation and Responsibility

The NAIOP and ICSC Wetlands Task Forces strongly endorse statutory and regulatory changes to the wetlands permit process which will facilitate delegation of the Section 404 program to the States. It must be recognized, however, that States have been unwilling to seek delegation, in part, because their agencies will be subject to micro-management by the federal government through such mechanisms as Section 404(c). While the Corps and EPA should have an oversight function following delegation to a State, such oversight can be accomplished without threats of case-by-case vetos and second-guessing.

As long as the State's primary involvement in the Section 404 permit process is through their role under Section 401 of the Clean Water Act in issuing water quality certifications, it is important that deadlines, consistent with those set forth in Section III.A.1. supra, be imposed on the State certification process. The NAIOP and ICSC Wetlands Task Forces submit that a 90 day review period is a feasible time period in which to require the State to complete water quality certification review.

6. Proper Funding and Staffing

The NAIOP and ICSC Wetlands Task Forces strongly recommend that the President and Congress provide the Corps of Engineers with sufficient funds to employ and train a competent, efficient and effective staff to conduct the Section 404 program in a fair, efficient and timely manner.

TESTIMONY OF H. LEIGHTON STEWARD
PRESIDENT, CHIEF EXECUTIVE OFFICER, AND
CHAIRMAN OF THE LOUISIANA LAND
AND EXPLORATION COMPANY AND
CHAIRMAN OF THE NATIONAL WETLANDS COALITION
BEFORE THE
SUBCOMMITTEE ON WATER RESOURCES
OF THE HOUSE OF REPRESENTATIVES
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION
HEARING ON
WETLANDS POLICY ISSUES

MARCH 13, 1990

Mr. Chairman, I appreciate the opportunity to address the Water Resources Subcommittee today. My name is H. Leighton Steward. I am Chairman, President, and Chief Executive Officer of The Louisiana Land and Exploration Company (LL&E). I am appearing before you today as Chairman of The National Wetlands Coalition.

The Coalition was formed in September, 1989. Our membership includes a geographically and economically diverse group of companies and governmental entities, all of whom share common interests in future policies affecting wetlands management. We formed The National Wetlands Coalition in the hope of making a constructive contribution to the efforts of the Administration and the Congress to develop a comprehensive plan for intelligent, practical and environmentally sensitive management of the Nation's wetlands.

The diversity of the Coalition's membership underscores the importance of the wetlands issue to the Nation. Our public sector members are engaged in water supply, power, port and airport development activities. Our private sector members include major landowners, energy companies, electric utilities, Alaska native corporations and commercial developers. Long before the recent public attention to wetlands protection issues, some of our members had been actively involved in the development of innovative wetlands protection projects and initiatives. For example, my own company, LL&E, owns over 600,000 acres of coastal wetlands in Louisiana. This area of Louisiana is the victim of massive erosion and subsidence, an alarming circumstance that is now beginning to unify leaders in the public and private sectors in Louisiana in a common effort to save these wetlands. My company has been a leader in the efforts to save our Louisiana wetlands. Since 1954, LL&E has constructed over 400 water control structures to slow the adverse impact of nature and man on this precious resource.

My personal interest in the wetlands issue has arisen as a result of LL&E's unique position as a landowner and steward of a substantial portion of Louisiana's coastal wetlands. LL&E is proud of its record as a leader in private sector efforts to manage wetlands and to set high standards of creativity in projects to restore our wetlands base. Other Coalition members have displayed their commitment to wetlands conservation through the implementation of innovative mitigation practices for development activities and by a general acceptance of responsibility to undertake development activities in an environmentally sound manner.

ESTABLISHING A NATIONAL WETLANDS POLICY

The National Wetlands Coalition believes that the establishment of a sound and comprehensive wetlands policy should be a high national priority. Our Nation's wetlands contain vital natural resources that yield a wide range of important environmental and social values. Among other things, wetlands can be high value plant and animal habitat, can be important to the maintenance of water supply and quality, and can provide unique recreational opportunities. At the same time, three of every four acres of the Nation's wetlands are privately owned. And, a very large percentage of our population lives on or near wetlands or other aquatic resources, and depends upon the use of those resources. For instance, under the Federal delineation manual, about 53% of Louisiana appears to be a wetland and over 2 million of our citizens live in these areas. As a result, claims for economically productive use of wetlands will continue to be made, to sustain our human population and to realize our society's economic, social and recreational goals.

If only a small portion of these claims for use of our wetlands resources were valid, then effective wetlands management would be simple. Policy makers would simply pick out the few "good uses" and prohibit the rest. However, the reality is that wetlands, and the Nation's water resources generally, are vital to maintaining a healthy and thriving environment, vital to sustaining human life and activity, and necessary to the continued efforts of both the public and the private sector to provide jobs, social services, recreation and other important social benefits.

As a result, the task of fashioning a sensible and genuinely effective program for long-term conservation and management is as challenging as it is important. The Coalition is here today to offer its commitment to work with the Congress as well as with the Administration in devising a national wetlands policy that fairly accommodates society's competing needs for continued economic use of some wetlands and conservation of environmental values associated with wetlands and aquatic resources.

ISSUES TO BE ADDRESSED

The Coalition believes that to accomplish the overall goal of sound wetlands management, Federal policy initiatives must address four general categories of issues. The Coalition has established task forces to develop specific proposals in each of these areas:

1. Definition of the national goal of "no overall net loss of wetlands";
2. Creation of meaningful incentives for private sector participation in wetlands conservation and restoration activities;
3. Reform of the wetlands regulatory process, including the section 404 permitting process; and,
4. Development of mechanisms to fund wetlands programs.

The work of these task forces will enable us to respond constructively to the efforts of the InterAgency Task Force and the Congress in attempting to devise policies that will effectively address these issues.

THE EPA-CORPS MEMORANDUM OF AGREEMENT

Before describing the issues of primary concern to the Coalition, I would like to address briefly the Memorandum of Agreement between the Corps of Engineers and the Environmental Protection Agency on mitigation procedure and policy (MOA), which I know is of concern to the Subcommittee. The MOA has occupied center stage in the wetlands debate during the recent months. The effect of this attention has been both good and bad. Its ill effect, we think, has been to intensify antagonisms unnecessarily over the single issue of mitigation policy and, indeed, over certain narrow aspects of mitigation policy under the section 404 permitting program. Mitigation policy is obviously an important element in the overall debate of wetlands management and protection. The Coalition feels very strongly that creative and cooperative efforts in fashioning mitigation objectives and in designing specific projects are essential to the implementation of a national wetlands policy. We believe that mitigation can be a very positive tool to ensure careful and well conceived requirements for development activities in wetlands.

However, certain substantive aspects of the MOA limit administrative flexibility to devise project requirements that fairly balance the multitude of factors involved when the Corps determines the circumstances under which activities in wetlands may appropriately be undertaken. Tough standards to protect truly valuable wetlands are appropriate in many circumstances. On the other hand, if inflexibly applied, these standards can defeat truly useful projects in less valuable wetlands areas, increase costs unreasonably, and result in the "protection" of lands that offer little in the way of true environmental values.

We have been, and continue to be, concerned that the sequencing requirements under the MOA will be implemented by the Corps and the EPA to discourage intrusion into any and all wetlands, regardless of the actual impact on the values and functions of the wetland, the value of the wetlands itself and without meaningful regard to the potential for compensatory mitigation to offset these impacts. We also have expressed concern with the failure to recognize the need for special rules or compensatory mitigation in Alaska or other regions of the country where the concentration of wetlands is high and the need and opportunity for compensatory mitigation is not always demonstrated. While the final modifications to the MOA set a tone of increased flexibility, we believe that the policies reflected in the MOA require a careful re-examination in the context of the InterAgency Task Force's effort to define a national wetlands policy.[1]

Our greatest concern with the MOA was the process by which it was adopted. We agree that the private sector bears a substantial responsibility for developing a reasonable national mitigation policy. However, the failure to proceed by notice and comment foreclosed the private sector and many agencies of government from attempting to play a constructive role in the development of that policy. Perhaps most importantly, the failure to provide for meaningful and open public comment created substantial concern that no effort would be made to consider the public's view as the Administration moves toward the development of proposals to implement the "no net loss" goal. While we recognize that the MOA is not, of itself, the means for implementing the President's "no net loss" goal,[2] it is clear that Federal mitigation is one very important piece of the wetlands policy puzzle. A flexible, cooperatively developed mitigation program can be very effective in encouraging private sector inventiveness and participation in wetlands restoration activities and can set national standards for conducting economic activities in an environmentally sound fashion.

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[1] In an effort to advance the Subcommittee's consideration of these issues, I have attached to our testimony the comments prepared by the Coalition for submission to the President and other Federal officials involved in the discussions over implementation of the MOA. These comments may be useful to you as you develop a national program for implementing the "no net loss" goal.

[2] As a practical matter, given the limited jurisdictional scope of section 404, and the fact that so much of the Nation's wetlands are in private ownership, it is unreasonable to conclude that adopting even the most restrictive regulation under the 404 program will do much to alter the current trends in wetlands loss.

This leads me to note the beneficial aspect of the recent controversy surrounding the MOA. In our view, there is now an increasing recognition among Federal policy makers of the need to come to grips with these difficult issues in a responsible, comprehensive way. We are particularly encouraged by the project to be undertaken by the Domestic Policy Council's InterAgency Task Force on Wetlands to undertake regional hearings and receive public comment on the implementation of the "no net loss" policy. We find this to be a much welcomed invitation to government, business and conservation groups to move toward wetlands conservation goals in a creative, cooperative, meaningful and coordinated fashion. The inquiry of this Subcommittee is another important step in advancing that goal. As this debate progresses, The National Wetlands Coalition is committed to coming forward with specific proposals for implementing this goal.

DEFINING "NO NET LOSS"

The phrase "no net loss of wetlands" has become a symbol of the need to develop a national strategy to stem the loss of environmentally important wetlands and encourage additions to that resource base. "No net loss" is at present a bare bones notion, and until we put some flesh on those bones, we are not sure what to say about whether or how "no net loss" can make good public policy sense.

In our view, "no net loss" of wetlands is a policy goal and an organizing principle that can serve as an impetus to the development of the specific policies and programs that must be crafted by the InterAgency Task Force and by the Congress. We do not believe that the starting point for an analysis should be the existing section 404 regulatory framework. Rather, we believe that there is a critical need for a fresh approach to wetlands conservation and management.

The work of the National Wetlands Policy Forum reflects an initial attempt to identify principles and proposals appropriate for consideration by the Congress and the Administration in defining the elements of a national wetlands policy. While our members do not necessarily endorse the findings of the Forum Report in all respects, we do believe that the Report was a productive and essential first step in attempting to devise a national wetlands policy. Many of the general principles articulated in the Report are useful points of departure in the Federal wetlands policy debate.

In particular, we believe that the Wetlands Forum Report has properly defined the framework for establishing a national wetlands policy. Briefly stated, the elements of the framework would:

- -- establish a coherent national policy objective with respect to wetlands conservation and management;
- -- emphasize planning to accomplish wetlands conservation and management;
- -- increase private sector incentives;
- -- modify wetlands regulatory programs to accomplish the combined goals of more effective protection and reduced regulatory costs and delays;
- -- reduce wetlands alterations resulting from government programs;
- -- improve the quality and quantity of available information about wetlands;
- -- increase wetlands restoration and creation activity;
- -- ensure adequate funding for acquisition and other wetlands programs.

While we agree that this is a useful framework, we also believe that several basic realities must be recognized if any progress is to be made in translating this framework into specific policies and programs. These realities are that:

1) over 75% of our Nation's wetlands are privately owned;
2) much of the Nation's population and much of our current economic activity occurs in wetlands areas; and,
3) not all wetlands are of equal value.

We do not raise these points simply to wave the banner of private property rights, but rather to identify the context in which the Administration and the Congress will be making policy decisions to implement a sound Federal wetlands program.

Given these realities, we do not believe that a sound national wetlands policy can proceed from the premise that wetlands conservation is presumptively inconsistent with multiple use. The current, wholly legitimate interest in wetlands protection appears to be creating a growing interest by some portions of the Federal government in setting aside wetlands from any and all development activities. In some instances this may well be necessary; some lands truly are so fragile and contain such high wetlands values and functions that development activities are unacceptable. When such lands are identified, they should be publicly acquired or landowners should otherwise receive fair compensation for the loss of the economic use of those lands. In most cases, however, this approach is neither economically tenable nor environmentally necessary.

As an economic matter, the cost of wholesale limitations on development in all wetlands -- both the cost of acquisition and the loss of economic productivity -- is considerably greater than our economy can or should absorb. The cost is certainly greater than Federal policy makers are likely to impose willingly upon an informed populace. However, unless this reality is faced, the current Federal budget constraints could encourage Federal policy makers to rely instead upon increased, stringent regulation to slow the threat of development. While this might create some short-term comfort that the cause of wetlands protection is being advanced, the fact is that the current regulatory structure does not reach most activities in wetlands, such as the drainage of wetlands. Using regulation solely as a device to halt development only defers the cost because, eventually, landowners deprived of all meaningful development rights will seek and receive compensation in the courts. As a consequence, not much will be meaningfully accomplished unless substantial effort is directed at managing the resource and accommodating multiple uses where possible in an environmentally sound fashion.

It is also important to recognize that this latter policy approach is not dictated solely by economic considerations. To the contrary, there is a growing base of experience that this course of action is entirely consistent with the overall goal of strengthened wetlands protection. In many instances, economic activity subject to careful environmental regulation can be undertaken in wetlands without a sacrifice of the values and functions we seek to conserve. Properly conducted, oil and gas operations, which involve only minimal and often temporary alteration of the land, fall into this category. In addition, development activity that involves alteration of wetlands can also be designed to accommodate, and even enhance, existing values by improving habitat conditions in nearby wetlands, restoring degraded areas and using other creative mitigation techniques.

Moreover, there are very real benefits to be gained in distinguishing among wetlands of differing quality in determining the level of regulation to be imposed. The MOA is an instructive example of the problem that occurs when all wetlands are assumed to be created equal. To some extent, the MOA would permit the Corps to recognize a difference in wetlands quality in determining the kind of compensatory mitigation requirements to impose, after an applicant has gotten beyond the "avoidance" and "minimization" requirements. However, the sequencing requirement, including the requirement to avoid any wetlands impact if practicable, applies to all wetlands, regardless of their quality. Thus, an applicant must clear most of the same regulatory hurdles, regardless of the quality of the land he seeks to use. This is not simply an unnecessary regulatory burden. It is counterproductive. An applicant has little reason to choose a less environmentally sensitive site over one that is more environmentally valuable if the regulatory obligations are the same in both instances.

On the other hand, encouraging the private sector to rely upon compensatory mitigation when the values lost are less significant accomplishes more than just a "trade-off" of economic and environmental values. Encouraging the private sector to devise new, innovative mitigation methods and to devote private funds to improving the current state of the art in wetlands conservation, restoration and creation will add critical new knowledge that will be essential to achieving our long-term goal of actually enhancing the current resource base.

REGULATORY REFORM

The failure of the current system to provide incentives for meaningful wetlands conservation, and the much documented inefficiencies inherent in that system, lead the Coalition to conclude that the reform of the current regulatory structure is vital to the development of a sound national wetlands policy. The National Wetlands Policy Forum Report acknowledges the need for a streamlined regulatory structure and identifies a number of problems with the current section 404 program. However, the Forum Report did not undertake the very complicated and ambitious task of attempting to determine how that system might be changed to accomplish both the dual objective of rational resource management and increased administrative efficiency. We are very hopeful that the Congress will not conclude that the task is too difficult to undertake.

We believe that the problem with the current regulatory program is fundamental and derives from the simple fact that national policy needs and objectives have overtaken the program that was originally envisioned by the Congress. The administration of the Clean Water Act covers a number of activities and was designed by the Congress to protect a variety of water related resources. Over time, wetlands protection has been integrated into that original charge. But the process of integration has been contentious at its worst and awkward and complicated at its best.

What we have today is an elaborate regulatory structure that is in many respects quite different from the creature that Congress envisioned when the section 404 program was enacted. The states have not assumed a substantial part of the responsibility for regulation under the section 404 program, which was perhaps not contemplated by Congress. The division of responsibilities between the Corps and the EPA has been the source of uncertainty, delay, confusion and economic inefficiency. Recently a heightened interest in protecting wetlands and managing the use of water resources has aroused the EPA's more direct intervention in specific permit issues. As the threat of an EPA veto under section 404(c) at the end of a long and costly permit process becomes increasingly likely, the uncertainty inherent in the current system increases dramatically.

The issuance of the Federal wetlands delineation manual further complicates the current regulatory situation by vastly expanding the scope of the definition of wetlands in ways that many landowners, particularly farmers and others not now subject to regulation, find difficult to predict. In many areas this may expand the definition of activities subject to regulation beyond the scope that was intended by the Congress when these issues were initially considered. In a recent hearing by another Subcommittee of the Public Works and Transportation Committee, the Corps announced its intent to reconsider the use of nationwide permits which are, under the current legal regime, an important means for expeditious consideration of low-impact activities.

In some instances, the objective of these administratively undertaken reforms may be appropriate. On the other hand, the potential decision to make more and more activity subject to the section 404 program may have enormous consequences and should be determined by elected officials in a public forum. This is not to suggest that the Corps and the EPA will not make a valiant effort to sort through these difficult issues. However, a policy initiative of this consequence should not be accomplished by an increase in the regulatory limitations that are imposed under the section 404 program. Too much has changed since Congress established the section 404 program in 1972 to be comfortable with an administrative solution within the current statutory framework. Whatever the best efforts of the Corps and EPA may be, the program's administration today is crippled by the absence of clear legislative direction concerning the values that must be protected, the social objectives that must be accomplished, and by the lack of a clear administrative path for obtaining secure permitting decisions and obtaining consistent responses from all Federal agencies.

As the section 404 program becomes increasingly a vehicle for Federal land use regulation, as it clearly has, it is absolutely essential that the Congress look at its effect, scope and implementation. One of the major efforts of the Coalition will be to develop specific proposals for reform of the section 404 process that we hope will be among those considered by the Congress as its undertakes its review of Federal wetlands policy. We look forward to an opportunity to participate in efforts of the Congress to revise and rationalize the section 404 process.

CONCLUSION

In sum, the Coalition believes that Congress must devote its attention in the wetlands debate to two general issues. The first concerns the overall comprehensive goal of advancing the cause of sound wetlands conservation and management. We believe that Congress should pay special attention to the efforts of the President's InterAgency Task Force and, in particular, that members of Congress should also monitor the results of the Task Force's regional hearings in which the local consequences of and need for Federal wetlands policy will be examined on a regional basis. Critical to the success of that process is the development of broad-based regulatory and non-regulatory incentives for private sector participation in sound wetlands management. We believe that Congress should also press for a continued openness in the public process as all Federal agencies, including the United States Fish and Wildlife Service and others, begin to develop proposals for the implementation of enhanced wetlands protection and management.

Finally, and perhaps most importantly, we believe the Congress has a unique responsibility to re-examine the section 404 regulatory process against its original purposes, in light of the changed circumstances and competing public policy goals that now affect the implementation of that process. We believe that a public-private consensus in this area can be accomplished and that, indeed, no effective program can be implemented without substantial consensus that is the basis for any enacted legislative proposal. I emphasize again that the Coalition is committed to working with you constructively and cooperatively in this process. Thank you for your attention.

Attachment

COMMENTS
THE NATIONAL WETLANDS COALITION
MEMORANDUM OF AGREEMENT
CONCERNING
WETLANDS MITIGATION POLICY

The Environmental Protection Agency and the Army Corps of Engineers are proposing to implement a Memorandum of Agreement (MOA) between those two agencies establishing a strict new policy governing mitigation requirements for permits issued under Section 404 of the Clean Water Act.

The MOA represents the first explicit attempt by the Corps and the EPA to implement regulatory requirements aimed at accomplishing the President's goal of "no overall net loss" of wetlands. However, for the reasons set forth below, we believe the MOA could hinder efforts to achieve the President's goal of "no overall net loss of wetlands." As a consequence, it is appropriate that mitigation policies articulated in the MOA be examined in light of the President's commitment to the "no net loss" policy goal.

The following comments attempt to analyze the relationship between the goal of "no net loss" of wetlands and the MOA, and to suggest issues affecting mitigation policy that need to be addressed as the President's Interagency Task Force on wetlands policy devises a specific plan for implementation of the national goal of "no net loss" of wetlands.

I. IMPLEMENTING THE PRESIDENT'S GOAL

By embracing the goal of "no net loss of wetlands", the President has clearly committed his administration to the development of an ambitious conservation program. Beyond this commitment to a general goal, however, apparently little progress has been made in defining "no net loss of wetlands" or in evaluating the means available for devising federal policies that move the nation toward that goal. Several factors make this task especially difficult:

A. "NO NET LOSS" IS A PROGRAM FOR CONSERVATION OF PRIVATELY OWNED RESOURCES

Perhaps the most complicating factor faced by the Interagency Task Force is that the substantial majority of the nation's wetlands are in private ownership. According to the United States Fish and Wildlife Service (FWS), approximately 74 percent of wetlands in the United States are privately owned. Although some of this ownership is concentrated, a substantial portion of it is dispersed among homeowners, hunters and fishermen, farmers and a diversity of small business people. As a consequence, severe restrictions on wetlands use could come into direct conflict with Constitutional rights to the use and enjoyment of private property interests. Even legally permissible and appropriate regulatory limitations result in the diminution of private use and therefore in the loss of private economic productivity. At a minimum, the conflict between these competing societal values poses important policy questions.

While regulation and enforcement can go some distance in imposing the President's goal on the private sector, reliance upon regulation as the primary tool for accomplishing "no net loss" invites costly lawsuits, defeats political consensus, and encourages retrenchment on both sides. Moreover, only a very small portion of wetlands loss in the United States occurs as a result of activities that are subject to Federal regulation. This is unlikely to change, unless the Congress and the Administration are prepared to subject normal farming and timber operations to the Section 404 permitting process. Thus, the reality is that private sector cooperation in the "no net loss" effort is essential if the goal is be accomplished on the broad scale apparently envisioned by the President.

In practical terms, this means that the "no net loss" policy must deal directly with the unavoidable reality that most of the land that the President wishes to protect is now in private ownership. Critical, therefore, to accomplishing the "no net loss" goal are:

1. incentives to the private sector to undertake restoration and conservation projects;
2. acquisition and leasing programs for land that the government determines must be preserved for public rather than private benefit; and,
3. a flexible regulatory system that permits compatible uses, recognizes regional differences, and encourages creative trading between values lost and values gained.

B. BALANCING ECONOMIC AND ENVIRONMENTAL VALUES IN A NO NET LOSS POLICY

A second difficult issue facing development of a "no net loss" policy arises from the fact that much of the nation's wetlands are highly productive, both environmentally and economically. The frequently cited natural resource values of wetlands include fish, vegetation and wildlife habitat, as well as natural water quality and supply functions, and protection against flooding and coastal erosion. Some wetlands are particularly high in such values. In those areas, as indicated in the National Wetlands Policy Forum Report, the environmental and ecological benefits of conservation efforts are undisputed.

There is, of course, a high variation in environmental quality and function of lands categorized as wetlands. As the regulatory definition of "wetlands" expands,[1] this diversity is

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[1] In an attempt to reconcile competing agency definitions of wetlands, the FWS, EPA, Corps and the Department of Agriculture Soil Conservation Service recently issued a new manual for delineating wetlands. There is some controversy concerning whether the operative regulatory (as opposed to scientific) definition of wetlands has been expanded by this manual. However, the clear practical consequence of this manual has been to embrace a very low common denominator of criteria, with the result that lands that fit the bare minimum of any of the pre-existing definitions may now be wetlands for purposes of the programs of each of these agencies. As a result, the modest presence of wetlands vegetation even in the absence of water inundation, the existence of a sand wash or other vestigial drainage characteristic in the desert, or even the presence of underground water within 18 inches of the surface for a minimum of seven days during a growing season, could classify lands as wetlands for Federal regulatory purposes. Thus, much of what is now wetlands does not necessarily contain the resource values

[footnote continued next page]

demonstrably more dramatic. Quite obviously, some wetlands have values that are extraordinarily high.[2] Other wetlands, however, may be isolated from any wetlands related ecosystem, may provide little or no habitat value or be so expansive and diverse that environmentally sound, incremental intrusion does not represent a measurable sacrifice of wetlands values such as, for example, the tundra of Alaska.

At the same time, much of the nation's economic activity also takes place in wetlands. This includes activities that are dependent upon their proximity to water resources, e.g., water supply projects, ports and irrigation projects. As a practical matter, most of the nation's population lives near water sources, and secondary development, such as road construction, housing and commercial services, must have some proximity to those population

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[footnote continued from previous page]

traditionally associated with wetlands, e.g., migratory bird habitat, fisheries, or willowy marshes and cypress trees. Clearly, some wetlands that are not visually recognizable as wetlands may contain some habitat or water quality values. However, the definition is now so broad that it is impossible to generalize the characteristics of the resource values from one wetlands area to the other.

[2] For example, some wetlands are essential for migratory bird habitat, (such as those to be protected under the North American Wetlands Conservation Act recently signed by the President); others have a high concentration of endangered or threatened species located in a limited area (e.g., lands recently acquired by the F&WS to establish a Wildlife Refuge for the endangered Florida Panther); and other wetlands are part of integrated and complicated ecosystems such as the Florida Everglades which have long been the object of preservation activities. Such lands are candidates for increased restrictions, governmental acquisition, or strong Federal incentives for private preservation.

centers. In addition, some states and regions of the country are predominantly wetlands (for example, much of Louisiana, the Northeast and Alaska) so that if development is to occur there, some of it must occur in wetlands.

C. PRINCIPLES FOR A "NO NET LOSS" POLICY

Assuming that the "no net loss" goal is not intended by President Bush to be a "no development" policy, then it must also be assumed that some economic development in wetlands -- even in wetlands subject to Federal regulation -- will continue to occur. This inescapably means that defining the role of regulation in accomplishing "no net loss" presents the formidable task of balancing economic and environmental values

The guiding principles to be derived from this recognition are not difficult to identify. Where wetlands values are extremely high and development activities pose a serious threat of loss, those activities should be closely regulated. If such activities must be prohibited altogether to preserve the environmental benefits for the public as a whole, the land should be acquired, or, if possible, the private landowner should be encouraged to take his development to less environmentally sensitive areas. Incentives to accomplish this level of protection can include tax or other financial incentives to encourage preservation activities, or streamlined procedural requirements that ease the regulatory burdens on activities in less sensitive areas.

Similarly, where wetlands values are low, such as in situations where wetlands meet the technical definition but provide little else in the way of wetlands values, the limitations and procedural requirements should be minimal, and the requirements for compensation should be modest and in some instances should be totally avoided.

For the most part, however, specific wetlands use issues will not be that clear cut. Some environmental values will usually be present and not all development activities will impair or "lose" the resource. In other cases, conversion of existing wetlands may occur, but restoration or creation of new wetlands may be sufficient to offset that loss.

Avoiding development activities in some very high value wetlands may well be essential to the goal of "no net loss". Avoiding development in any area that meets the minimum current scientific criteria of a wetland, or refusing to use the regulatory process to fashion projects that balance environmental gains and losses, will inevitably result in the substantial sacrifice of economic development. While some of this economic development may be viewed as "unnecessary," much of this activity may well serve other of the President's policy aims, including expanded employment opportunities, continuing economic growth, national energy independence, delivery of clean burning fuels such as natural gas to growing markets, maintenance of the nation's infrastructure and the like. So long as the Interagency

Task Force approaches its task with a view toward realizing the full range of values available from the protection and responsible use of the nations wetlands, "no net loss" can be a meaningful environmental goal.

II. THE "NO NET LOSS" GOAL AND THE MOA

As the foregoing suggests, the Federal regulatory system is only one tool available to the President for accomplishing the "no net loss" goal. Indeed, if the program is to be successful, substantial effort must be devoted to non-regulatory tools for encouraging wetlands protection. This does not mean, however, that the MOA is unrelated to the goal of "no net loss". To the contrary, in the name of accomplishing "no net loss", the MOA very specifically defines the policy posture of the Federal government with respect to regulated development activities in wetlands. Just as importantly, the policies embraced in the MOA will serve as a model to state governments that are increasingly interested in wetlands regulatory programs. As a consequence, it is appropriate to measure the effect of the MOA against the objectives of the President's "no net loss" commitment.

III. THE EFFECT OF THE MOA ON REGULATORY FLEXIBILITY

Again, it is assumed that "no net loss" is not intended to arrest all future development activity in the nation's regulated wetlands, without regard to the quality of these wetlands, the character of the intrusion, or the economic values sacrificed.

The essential question for the Task Force is whether the policy judgments reflected in the MOA will result in the flexibility necessary to take all those factors into consideration. There is considerable reason for concern that, in important respects, the MOA eliminates such flexibility and will result in a regulatory program that will undermine efforts to develop a broad public concensus in favor of no net loss.

A. THE PRACTICAL EFFECT OF STRICT SEQUENCING AND THE LIMITATION ON THE CORPS TRADITIONAL PUBLIC INTEREST REVIEW

One area of specific concern arises from the decision to adopt a strict sequenced approach in reviewing of a permit application. "Sequencing" describes an analytic process. As defined in the MOA, it requires the Corps to look first to whether a proposed project can be avoided, and, if not, whether its environmental impacts can be minimized. After these hurdles are cleared, the applicant and regulator may talk about steps that could compensate for the environmental impacts that remain. Accompanying the rigid sequencing requirement in the MOA is language that eliminates the balancing of natural resource values with economic and societal considerations, features of the Corps' traditional "public interest" review. This limitation appears to apply regardless of the quality of the wetlands resource being affected or the purpose of the proposed project.

Depending upon how they are applied, the "avoidance" and "minimization" tests can be either sensible or absurd. For example, is a project unavoidable if a landowner owns no other land and therefore has no other alternative? Or is it unavoidable only if the particular activity must occur in a wetland? May the Corps impose any limitation that minimizes the project's environmental impacts, or will minimization requirements be limited by economic considerations? What are the limits of compensatory mitigation, if the developer gets that far?

The effect of the MOA's sequencing requirements is to impose an analytic straight jacket on a process that ought to be pursued with creativity and imagination. It may well be that a permit applicant, such as for example, a highway agency, may come forward with a project that requires conversion of some marsh wetlands and involves a temporary intrusion into others for access during construction. Because there are no adjacent areas available for reclamation, the applicant offers some offsite mitigation and also offers environmental amenities such as ponds that are sited for waterfowl and associated recreational facilities.

If the project is considered without regard to the proposed compensatory mitigation, other alternatives may appear to have lesser environmental consequences. The result could be an regulatory decision to require the highway agency to build the road along a more expensive route or not to build the road at all. However, if other benefits planned to be accomplished through compensatory mitigation are considered in the evaluation of alternatives (e.g., restoration or creation of new wetlands areas and other acquatic resources), the applicant's project may well be environmentally less damaging on an acre-for-acre basis than building the road along a more expensive route. And, there are considerable social consequences to the public if the road is not built at all.

Quite simply, reviewing a highway project as a whole, including its proposed compensatory benefits, does not in any way, compromise the analysis of alternatives or the development of minimization requirements. But strict sequencing, combined with elimination of the balancing of economic and social interests, will have the effect of making it less likely that the permit will be issued. This is because the compensating benefits (i.e. the factors that could actually help to accomplish "no net loss" without sacrificing all economic benefits) will not be considered in the context of the first critical stages of project evaluation, i.e., the alternatives tests and the development of requirements to minimize adverse environmental impacts. And even assuming that the project is permitted, the refusal to consider economic and social factors in establishing mitigation requirements means that the taxpayer may bear unnecessary additional costs, even when the environmental benefits may be marginal.

The result of the strict application of the MOA may well be fewer projects and smaller projects. But these will not necessarily be better projects. No real balancing of economic and environmental benefits will occur. And, there will be little incentive in the system for comprehensive environmental planning to include restoration and creation of wetlands. If "no net loss" is to be a cooperative public and private sector goal, inducement to ensure such planning ought to be a critical facet of a "no net loss" regulatory program.

B. MITIGATION BANKING AND PRESERVATION AS MITIGATION TECHNIQUES

Other aspects of the MOA have comparable effects. For example, the MOA severely constrains the use of mitigation banking as a mitigation technique. Again, it does not appear to matter whether the affected wetlands are less valuable than those contributed to "the bank". If no net loss is to be accomplished, mitigation banking ought to be aggressively pursued, not discouraged. Certainly a high degree of regulatory scrutiny of the quality of wetlands banked is necessary if the banking system is to work, but the Federal policy should be one of cooperation and encouragement, and not skepticism.

Equally as important is the restriction on the use of preservation as a mitigation technique. The MOA contemplates that only in extraordinary circumstances may a landowner donate land, or keep it in protective status, as a means of mitigating the impact of development activity on other land. Presumably the

MOA reflects the view that the preservation of undisturbed privately owned lands does not represent a public gain. While such a view has some superficial mathematical appeal, it does very little to actually advance the cause of wetlands conservation because it fails to take into account the most vexing aspect of fashioning a "no net loss" policy: that is, the very high percentage of wetlands that are held in private ownership. Rather than permitting donation or preservation only in undefined extraordinary circumstances, as the MOA provides, the "no net loss policy" could be used to encourage land owners to forego their development rights in precious wetlands in exchange for the right to proceed in an environmentally sound fashion in other, less valuable areas. If the United States can bring valuable privately owned wetlands into protective status, without expenditure of public funds and without unreasonably interfering with private land owner rights, the objectives of the "no net loss" goal would appear to be substantially furthered.

IV. THE TASK OF THE INTERAGENCY TASK FORCE

"No net loss" cannot be accomplish if the task is viewed simply as an exercise in regulatory accounting. "No net loss" is a goal, the heart of which is the conservation of precious wetlands resources. As the National Wetlands Policy Forum Report recognizes, not all wetlands are created equal; all economic growth in wetlands areas is not expendable; and developing a Federal regulatory program represents only one aspect of the task before the Interagency Task Force. Moreover, the Federal regulatory program must be structured to encourage comprehensive environmental planning, a recognition of regional differences, and innovative approaches to wetlands restoration and preservation if the national "no net loss" goal is to be achieved.

The MOA, in significant respects, tends to do precisely the opposite, by limiting the flexibility of the Federal permitting process to pursue "no net loss" by balancing national environmental and economic objectives in cooperation with those who own and work in wetlands. This is of considerable consequence to the entire nation, for although the MOA does not affect many of the activities adversely affecting wetlands, the MOA will control a substantial portion of the nation's development activity, including most infrastructure construction, housing, port and airport development and energy production activities. As a result, it is incumbent upon the Interagency Task Force to specifically examine the implementation of the MOA in light of the President's overall wetlands conservation goals and other major policy objectives, and to make recommendations that ensure that "no net loss" will produce a cooperative public-private effort to achieve sound wetlands management and conservation.

TESTIMONY BEFORE THE
HOUSE PUBLIC WORKS & TRANSPORTATION COMMITTEE
WATER RESOURCES SUBCOMMITTEE
ON NATIONAL WETLANDS POLICY AND LEGISLATION

March 13, 1990

Linda Winter, Director
Wetlands Watch Program
Izaak Walton League of America

My name is Linda Winter and I direct the Izaak Walton League of America's Wetlands Watch and Chesapeake Bay programs. On behalf of the Izaak Walton League, I am pleased to be here today to discuss some of our views on what national wetlands policy and comprehensive wetlands legislation should encompass.

Formed in 1922 over concern for our nation's declining water quality, the League is one of the oldest national conservation organizations in the country. We have long recognized wetlands as some of our most valuable natural resources, having been instrumental in the creation of the Upper Mississippi Wildlife and Fish Refuge--encompassing vast wetland areas--in the early 1920s. Our more than 50,500 members are avid hunters and fishermen, conservationists and outdoor enthusiasts who depend on wetlands for their recreation and enjoyment.

The League strongly believes that one of the ways to achieve greater wetlands protection and the "no net loss" goal is through citizen education and involvement. Through our Wetlands Watch program, we conduct citizen workshops and distribute written informational materials. Citizens learn of the values and functions of wetlands and about national programs in which they can participate, such as Section 404 of the Clean Water Act, Swampbuster, and the North American Waterfowl Management Plan.

League chapters across the country are also very involved in hands-on wetland protection and restoration efforts. For example, in New Jersey, our Ocean County Chapter is trying to preserve Reedy Creek by federal acquisition of this unique area through the Land and Water Conservation Fund and through private donations. Time is of the essence, since three residential development projects are proposed for this site.

In Maryland, our Harford County Chapter owns 356 acres of wetlands on Otter Creek, soon to be designated a National Estuarine Research Reserve. The chapter has developed canoe and walking trails, and is in the process of developing an interpretive nature trail for the blind. The Chesapeake Bay Foundation also uses this area to take high school students on educational field trips.

Our New London Chapter in Minnesota has been involved in a wetland restoration effort since the early 1920s. In 1914, a few farmers drained the waters of Timber Lake, a 450-acre, 9-foot-deep pool, to create more farmland. However, the soil was found to be too poor to farm. The chapter tried over the years to convince surrounding landowners to restore its water, but fears of flooding prevailed. Then in 1985, when beavers built a dam right where the chapter had proposed to build one, the landowners were convinced. In 1988, the chapter built a water control structure using their own money and cost-share money from the local Soil and Conservation District. Since then, the restored marsh has provided habitat for a variety of waterfowl and shorebirds, as well as muskrat, mink and beaver.

As you can see by just the few examples that I mentioned, the League has been very active on wetlands issues, both at the national and local level. Although citizen education and involvement in wetlands protection is critical, it alone will not achieve a national no net loss of wetlands goal, or a net resource gain. Comprehensive national wetlands policy and legislation is obviously needed.

Before the National Wetlands Policy Forum (NWPF) released their recommendations for federal wetlands legislation, we came up with a few recommendations of our own. At our July 1989 national convention, where hundreds of delegates came together to set League policy, the delegates unanimously adopted the resolution--Wetland Preservation and No Net Loss of Wetlands--a copy of which is attached. Our recommendations, directed to the Domestic Policy Council's Interagency Task Force, are relevant to the subject of today's hearing and include:

--avoid wetlands loss first and foremost, since the most cost effective and efficient way to achieve "no net loss" is to avoid the loss of existing wetlands;

--eliminate federal government programs that subsidize and encourage wetlands destruction;

--increase funding for nationwide wetlands mapping, not only to provide more certainty to the public and the regulated community regarding the location of wetlands, but also to provide a bench-mark to determine if we are achieving the no net loss goal;

--increase funding for federal restoration projects and programs, as authorized under the North American Wetlands Conservation Act;

--require mitigation through the sequential process of avoiding, minimizing, rectifying, reducing and lastly compensating, through restoration or creation, for unavoidable adverse environmental impacts due to a proposed project;

--require no net loss of both acreage and function of wetlands, and compensatory mitigation on a greater than 1:1 ratio so that loss of wetland functions are compensated to the greatest extent possible;

--require on-site compensatory mitigation, or in the same watershed if on-site mitigation is not feasible, or would be unsuccessful; require long-term commitment to the success of mitigation projects, and endorse wetland restoration as the preferred method of compensatory mitigation;

--do not allow the use of wetland gains in one watershed, eco-region or state to off-set losses in another watershed, eco-region or state;

--do not allow the use of on-going programs, such as the 1985 Farm Bill or the North America Waterfowl Management Plan, to off-set losses sustained in other programs, such as Section 404 of the Clean Water Act;

--stop the filling of wetlands for non-water-dependent projects;

--require the U.S. Army Corps of Engineers to fully implement Section 404 (f)(2) to regulate agricultural activities, such as ditching and draining, designed to convert wetlands to a different use;

--rescind Nationwide Permit #26, which allows the destruction of isolated, or headwaters wetlands, and require the appropriate federal agency to track cumulative wetland losses sustained under other general permits so that it can be determined if these losses are truly minimal, both individually and cumulatively, as directed under Section 404 (e)(1) of the Clean Water Act; and

--expand Section 404 of the Clean Water Act to apply to drainage, as well as filling, of wetlands and water courses.

While our resolution was not meant to be an all-inclusive prescription for how the nation can achieve no net loss of wetlands and a net resource gain, we do believe that if our recommendations are followed, we will move a long way toward these goals.

Thank you for the opportunity to testify before this subcommittee, and I would be happy to answer any questions that you may have.

Izaak Walton League of America
1989 Resolution:

WETLAND PRESERVATION AND NO NET LOSS OF WETLANDS

Since 1922, the Izaak Walton League of America has witnessed the decline of our nation's wetland resources and has consistently advocated the need to protect them.

In addition to providing vital habitat to hundreds of species of fish and wildlife, wetlands aid in flood and erosion control, help maintain stream flow during droughts, recharge groundwater supplies, help improve water quality by filtering pollution and sediment, and offer recreational and educational opportunities.

Over half of the original 215 million acres of wetlands existing in America in the late 1700s have been destroyed. Despite federal acquisition and regulatory programs, approximately 300,000 to 450,000 acres of wetlands continue to be destroyed each year nationwide.

Given the enormous wetland loss and increased public concern, the current administration has endorsed the concept of "no net loss of wetlands" and has appointed an Interagency Task Force, under the White House Domestic Policy Council, to produce a united federal policy on wetlands preservation.

The Izaak Walton League of America, assembled in convention at Harrisburg, Pennsylvania, July 19-21, 1989, endorses the concept of no net loss and urges the Interagency Task Force to adopt a policy that:

--advocates the avoidance of wetlands loss first and foremost;

--eliminates federal government programs that subsidize and encourage wetlands destruction;

--increases funding for nationwide wetlands mapping;

--requires wetland losses to be mitigated through the sequential process of avoiding, minimizing, rectifying, reducing and compensating for adverse environmental impacts;

--requires no net loss of either acreage or biological and physical quality of wetlands;

--requires compensation for the loss of wetland acreage on a greater than 1:1 ratio so that loss of wetland functions are always fully compensated;

(over)

--requires on-site compensatory mitigation or mitigation in the same watershed if on-site mitigation is not feasible;

--does not allow the use of wetland gains in one watershed, eco-region or state to off-set losses in another watershed, eco-region or state;

--does not allow the use of such on-going programs as the 1985 Farm Bill or the North American Waterfowl Plan to off-set losses sustained in other programs;

--requires long-term commitment to the success of compensatory mitigation projects;

--stops the filling of wetlands for non-water-dependent projects;

--rescinds Nationwide Permit #26, which currently allows the destruction of small, isolated, or headwaters wetlands, and requires the appropriate federal agency to track cumulative wetland losses sustained under other general permits;

--requires the U.S. Army Corps of Engineers to fully implement Section 404 (f)(2) to regulate agricultural activities, such as ditching and draining, designed to convert wetlands to a different use;

--expands Section 404 of the Clean Water Act to apply to drainage, as well as filling of wetlands and water courses;

--endorses wetland restoration as the preferred method of compensatory mitigation and increased funding for federal restoration projects and programs. •

ADDITIONS TO THE RECORD

STEVE COWPER
GOVERNOR

STATE OF ALASKA
OFFICE OF THE GOVERNOR
WASHINGTON, D.C.

March 22,1990

The Honorable Henry J. Nowak
Chairman
House Subcommittee on Water Resources
B370-A Rayburn House Office Building
Washington, D.C. 20515

Dear Mr. Chairman:

The State of Alaska is submitting the enclosed material for inclusion in the record of your recently concluded hearings on the status of our nation's wetlands. We hope it will prove informative and useful in your further deliberations.

As you know, Alaska has been active in the debate over development of a national strategy to protect existing wetlands and restore those that have been lost in the contiguous 48 states. We are on record in support of a national goal of no overall net loss of wetlands by acreage and by function. The State has been successful in the National Wetlands Forum and at the National Governors' Association in encouraging others to adopt that flexible formulation.

The reason flexibility is, in our view, so critical to a national wetlands policy is because 74% of the non-mountainous area in Alaska is wetland. We have very few non-wetland alternatives for community expansion or economic development. Further, since Alaska was purchased from Russia in 1867, only 80,000 acres (0.05 percent) of our wetlands have been lost to development.

We have implemented stringent regional planning strategies in our state to make sure that wetlands development decisions are made wisely. These plans reflect the diversity of wetland types and functions in Alaska. We believe a national wetlands policy must do the same and should enable states to undertake appropriate wetland planning on a regional or local basis to take account of the diversity of wetland types throughout the country.

The State of Alaska is one of several litigants who have challenged the process by which the Environmental Protection Agency and the Army Corps of Engineers adopted the recent Memorandum of Agreement on wetlands. Although we remain firm in our view that the MOA adoption process was flawed, we stand ready

HALL of the STATES — Suite 518 — 444 North Capitol Street N.W. — (202) 624-5858

and willing to work with Congress and the Administration to develop a long-term, substantive national policy on wetlands. To that end, we are formulating a series of recommendations describing what, in our view, a workable national policy should contain. As soon as that document is completed, we will make it available to your Subcommittee. In the meantime, we have included for your information and use a copy of the State's complaint in the MOA litigation, a recent issue of the Alaska Fish & Game magazine dealing with wetlands issues, and some facts and figures on land ownership and status in Alaska.

We look forward to working with you on wetlands issues. Thank you for considering our views on this important matter.

Sincerely,

John W. Katz

John W. Katz
Director of State/Federal Relations
and Special Council to the Governor

Enclosures

cc: Congressman Arlan Stangeland, Ranking Republican Member of
the Subcommittee
Senator Ted Stevens
Senator Frank Murkowski
Congressman Don Young

Geography

Area

586,412 square miles

Island (largest)

Kodiak	3,588 square miles
Prince of Wales	2,770 square miles
Chichagof	2,062 square miles

Mountains (highest)

McKinley	20,320 feet
Saint Elias	18,008 feet
Foraker	17,400 feet
Bona	16,500 feet
Blackburn	16,390 feet
Sanford	16,237 feet
Vancouver	15,700 feet
Churchill	15,638 feet
Fairweather	15,300 feet
Hubbard	15,015 feet
Bear	14,831 feet

Rivers (longest)

Yukon	Total 2,300 miles **1,875 in Alaska**

Coastline

6,640 miles

Shoreline

33,904 miles

Oceans

- North Pacific
- Arctic

Seas

- Beaufort
- Bering
- Chuckchi

Lakes (largest)

Illiamna	1,000 square miles
Becharof	458 square miles
Teshekpuk	315 square miles
Naknek	242 square miles

Land Ownership

Following is the amount of Alaska land owned by various entities as of March 1987:

Owner	Acreage (millions of acres)	Percent of Total
Total acreage in Alaska	367.7	100.0
State	104.8	28.5
U.S. Fish and Wildlife	76.0	20.6
U.S. Bureau of Land Management	65.0	17.7
National Park Service	51.0	13.9
Native	43.7	11.9
U.S. Forest Service	23.2	6.3
Private	5.0	1.4
Military	2.5	0.4

Note: Because of unresolved overlaps between State and Native selections and various federal designations and because State Entitlement Land may be disposed of to private owners, the sum of subtotals exceeds the statewide total.

Source: Alaska Department of Natural Resources, Division of Land and Water Management.

DOUGLAS B. BAILY
ATTORNEY GENERAL

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M. Francis Neville
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State of Alaska
Department of Law
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Anchorage, Alaska 99501
Attorney for Plaintiff
State of Alaska

Telephone: 907-276-3550

IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF ALASKA

STATE OF ALASKA,
Plaintiff,

vs.

MICHAEL P. W. STONE, Secretary of the Army, ROBERT W. PAGE, Assistant Secretary of the Army (Civil Works), WILLIAM K. REILLY, Administrator of the Environmental Protection Agency, and LAJUANA S. WILCHER, Assistant Administrator for Water of the Environmental Protection Agency

Defendants.

FIRST AMENDED
COMPLAINT FOR DECLARATORY
AND INJUNCTIVE RELIEF

Case No. A90-014 Civil

DEPARTMENT OF LAW
OFFICE OF THE ATTORNEY GENERAL
ANCHORAGE BRANCH
1031 W. FOURTH AVENUE, SUITE 200
ANCHORAGE, ALASKA 99501
PHONE (907) 276 3550

INTRODUCTION

1. The STATE OF ALASKA ("Alaska") brings this suit for declaratory and injunctive relief. Alaska seeks an order declaring that the agreement dated February 6, 1990 entitled "Memorandum of Agreement Between the Environmental Protection Agency and the Department of the Army Concerning the Determination of Mitigation Under the Clean Water Act Section 404(b)(1) Guidelines" ("MOA")

was entered into without following the procedures required under the Administrative Procedure Act ("APA") and 40 C.F.R. § 230.2(c) for adopting substantive rules. Alaska also seeks a declaration that the MOA was entered into in violation of the National Environmental Policy Act ("NEPA") and its implementing regulations because the MOA is a major federal action significantly affecting the quality of the human environment and no environmental impact statement was prepared, and because the terms of the MOA are inconsistent with applicable NEPA regulations. Alaska seeks an injunction prohibiting the defendants from implementing and acting in accordance with the MOA without first complying with the rule making provisions of the APA and 40 C.F.R. § 230.2(c) and without complying with the provisions of NEPA and its implementing regulations.

JURISDICTION

2. This court has jurisdiction pursuant to 5 U.S.C. § 702 (review of agency action), 28 U.S.C. § 1331(a) (federal question), 28 U.S.C. §§ 2201 and 2202 (declaratory judgment), and 33 U.S.C. § 1344 (Section 404 of the Clean Water Act).

VENUE

3. Venue is proper in this court under 28 U.S.C. § 1391.

PARTIES

4. Plaintiff Alaska is a sovereign state of the United States of America, having been admitted to the Union on January 3, 1959 pursuant to the Alaska Statehood Act, Public Law 85-508, 72 Stat. 339 (1958). Alaska appears in its own right, on behalf

of its agencies, and on behalf of its citizens.

5. Defendant MICHAEL P. W. STONE ("Secretary") is the Secretary of the United States Department of the Army and, in that capacity, has direct authority over the United States Army Corps of Engineers ("Corps"). Defendant ROBERT W. PAGE is the Assistant Secretary of the Army, Civil Division, and in that capacity signed the MOA on behalf of the Corps.

6. Defendant WILLIAM K. REILLY ("Administrator") is the administrator of the United States Environmental Protection Agency ("EPA") which, together with the Corps shares responsibility for the issuance of permits for dredging and filling the waters of the United States pursuant to section 404 of the Clean Water Act, 33 U.S.C. § 1344. Defendant LAJUANA S. WILCHER is the Assistant Administrator for Water of the EPA, and in that capacity signed the MOA on behalf of the EPA.

THE CURRENT SECTION 404(b)(1) PERMIT PROGRAM

7. Section 404 of the Clean Water Act, 33 U.S.C. § 1344, authorizes the Secretary of the Army to regulate, through the issuance of permits, the discharge of dredged or fill material into navigable waters. Section 404 does not provide for offsite or compensatory mitigation as conditions for permit issuance and does not include either a permit-specific or a generalized national "no net loss" of wetlands goal, policy, or requirement.

8. The Corps has defined the term "navigable waters" expansively to include "wetlands." The term "wetlands" is defined

in regulations adopted by EPA and the Corps as follows:

> The term "wetlands" means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

33 C.F.R. § 328.3(b); 40 C.F.R. § 230.3(t).

9. Under the regulatory definition of "wetlands," approximately 170,000,000 acres in Alaska are considered by the Corps and the EPA to be wetlands. These "wetlands" cover more than 70% of the non-mountainous area of the state and are approximately double the wetland acreage of the contiguous United States.

10. Alaska has extensive, continuous tracts of land that are considered by the Corps and EPA to be wetlands. Alaska's communities are typically located along its coasts and rivers where wetlands are abundant. An estimated 98% of all Alaskan communities are located in, or adjacent to, lands considered by the Corps and EPA to be wetlands. In many of these communities, few or no non-wetland development alternatives exist.

11. The Corps and EPA assert that tundra underlaid by permafrost is "wetlands." Based on that assertion, Alaska's entire North Slope is considered by the Corps and EPA to be wetlands, although water is scarce and the tundra does not serve

the same ecological and hydrological functions as those lands in temperate climates that are characterized as wetlands.

12. Under §404(b) of the Clean Water Act, the Administrator, in conjunction with the Secretary, was required to formulate guidelines to be used in issuing permits for the discharge of dredged and fill materials into navigable waters. EPA promulgated its §404(b)(1) Guidelines ("Guidelines") as regulations under the APA on December 24, 1980. The Guidelines are published at 40 C.F.R. Part 230.

13. The Guidelines provide that no modifications to the basic application, meaning, or intent of the Guidelines will be made without rule making by the Administrator under the APA. 40 C.F.R. § 230.2(c).

14. The Guidelines specify the sequence a permitting authority should follow in using the Guidelines. The sequence includes the examination of practicable alternatives and the use of appropriate and practicable changes to minimize the environmental impact of a discharge based upon the specialized methods of minimization of impacts in Subpart H of the Guidelines. 40 C.F.R. § 230.5.

15. A proposed disposal site for the discharge of dredged or fill material is considered as failing to comply with the Guidelines only if (1) there is a practicable alternative that would have less adverse effects, (2) the proposal will result in significant degradation of the aquatic ecosystem, (3) all appropriate and practicable minimization measures have not been

taken, or (4) there is insufficient information to determine compliance with the Guidelines. 40 C.F.R. § 230.12(a)(3).

16. The Guidelines include neither a policy statement of "no overall net loss of wetlands values and functions," nor any requirement that a national no net loss policy should control or be considered in making individual permit decisions.

17. The Guidelines do not include a requirement for "compensatory mitigation" (the restoration of existing degraded wetlands or the creation of man-made wetlands). The Guidelines do not require any mitigation measures for unavoidable adverse impacts that may remain after the application of avoidance and minimization techniques. The Guidelines do not specifically authorize the imposition of any off-site compensatory mitigation measures in the issuance of §404(b)(1) permits.

18. On November 13, 1986 the Secretary adopted final regulations addressing a number of regulatory programs under the Department of the Army jurisdiction, including §404 of the Clean Water Act. These regulations are published at 33 C.F.R. Parts 320, 323, and 325.

19. Unlike the Guidelines, the Corps regulations authorize the imposition of compensatory mitigation requirements as conditions of §404(b)(1) permits. However, the Corps regulations authorize compensatory mitigation only in very limited circumstances, based on a public interest determination that balances all the potential benefits and detriments of a proposed project, not just the potential impacts on the aquatic resource.

33 C.F.R. § 320.4(a) and (r).

20. The Corps regulations include neither a policy statement of "no overall net loss of wetlands values and functions," nor any requirement that a national no net loss policy should control or be considered in making individual permit decisions.

21. Since 1985, the EPA has had a policy (a) to actively promote, support, and recommend compensatory mitigation for unavoidable adverse environmental impacts for all projects in Alaska subject to §404 of the Clean Water Act, and (b) to recommend "no net loss of aquatic site functional value" for all projects in Alaska subject to §404 of the Clean Water Act. This policy was not adopted as a regulation under the APA.

22. When the Corps regulations were adopted in 1986, the Secretary declined to adopt as Corps policy a requirement that applicants routinely perform compensatory mitigation, and expressly declined to obligate the Corps to require compensatory mitigation even when requested by other agencies such as EPA. The Secretary stated that compensatory mitigation could be required by permit conditions only in compliance with 33 C.F.R. § 325.4(a)(3).

23. The concept of "no net loss" of wetlands has been the subject of much controversy in recent years among EPA, the Corps, other federal agencies, state agencies, and the public. In 1987, at the request of the EPA, The Conservation Foundation convened the National Wetlands Policy Forum ("Forum") to address

major policy concerns about how the nation should protect and manage its valuable wetlands resources. Alaska actively participated in the Forum.

24. The Forum recommended the adoption of a national policy of "no net loss" of wetlands that included the use of compensatory mitigation in individual cases where appropriate. Alaska supported these recommendations with the understanding, shared by the Forum, that the policy would be flexible, would recognize regional differences, and would be adopted through regulatory and statutory amendment processes in which Alaska and members of the public could participate and express their views and concerns.

25. The President of the United States has established an interagency National Domestic Policy Council Wetlands Task Force to consider the implementation of a "no net loss" policy. This Task Force has solicited and received comments from members of the public and from Alaska. The work of the Task Force is ongoing.

THE EPA/CORPS MEMORANDUM OF AGREEMENT

26. On November 14, 1989 the defendants LAJUANA S. WILCHER for EPA and ROBERT W. PAGE for the Corps signed a Memorandum of Agreement to serve as a "directive for Corps and EPA personnel." The stated purpose of the Memorandum of Agreement was to "articulate the policy and procedures to be used in the determination of the type and level of mitigation necessary to demonstrate compliance with the Clean water act (CWA) Section 404

(b)(1) guidelines."

27. The November 14, 1989 Memorandum of Agreement was negotiated, drafted, and executed in secret and without advance notice to Alaska, to other affected states, to other federal agencies, or to members of the public. The MOA was first published in the Federal Register on December 14, 1989, one day before its original intended effective date.

28. The effective date of the November 14, 1989 Memorandum of Agreement was thereafter postponed on three occasions by the EPA and the Corps in response to controversy generated by its issuance. The EPA and the Corps made minor, largely cosmetic, changes to their agreement and on February 6, 1990 signed the MOA referenced in paragraph 1 of this complaint. The effective date of the MOA was February 7, 1990.

29. The MOA, "must be adhered to" by all Corps and EPA personnel and commits the Corps, for the first time, to accept EPA's position on compensatory mitigation, a position that the Corps expressly declined to accept when it issued its regulations in 1986.

30. The MOA adopts significant substantive policies and procedures that are substantially different from those set forth in existing regulations. These include:

(a) The MOA describes a decision-making sequence for the Corps to follow. Under the MOA the Corps "first makes a determination that potential impacts have been avoided to the maximum extent practicable; remaining unavoidable impacts will then be mitigated to the extent appropriate and practicable by requiring steps to minimize impacts and, finally, compensate for aquatic resource values." The MOA's decision-making sequence is different from that set forth in current EPA Guidelines at 40 C.F.R. § 230.5 and conflicts with current Corps regulations at 33 C.F.R. § 320.4(r).

(b) The MOA commits the EPA and the Corps to a substantive policy of no overall net loss of wetland values and functions in decisions for the issuance of standard permits under § 404(b)(1) of the Clean Water Act. In contrast, neither the EPA Guidelines nor the Corps regulations currently provide for a "no net loss" goal, policy, or requirement.

(c) The MOA generally requires compensatory mitigation for unavoidable adverse impacts remaining after avoidance and minimization by requiring the permit applicant to "replace" wetlands that are the subject of the permit with other restored or newly man-made wetlands. In contrast, neither the EPA Guidelines nor the Corps regulations currently require compensatory mitigation for unavoidable adverse impacts. Furthermore, the MOA compensatory mitigation requirement conflicts with existing Corps regulations limiting both the circumstances under which imposition of any compensatory mitigation may be required and the extent to which it can be required.

(d) The MOA provides that the determination of what level of mitigation constitutes "appropriate" mitigation "is based solely upon the values and functions of the aquatic resources that will be impacted." This provision is contrary to current Corps regulations at 33 C.F.R. § 320.4(a) and (r).

(e) The MOA provides that "if the mitigation plan necessary to ensure compliance with the Guidelines is not reasonably implementable or enforceable, the permit shall be denied." This is inconsistent with the provisions of Guidelines at 40 C.F.R. § 230.12(a)(3) and with current Corps regulations at 33 C.F.R. § 320.4(r)(iii).

31. The defendants realize that the MOA imposes new substantive permitting requirements and have therefore exempted from its application all permit applications completed prior to the effective date of the MOA.

THE INTEREST OF THE STATE OF ALASKA

32. Under the Alaska Statehood Act, Alaska has been, or will be, conveyed approximately 105 million acres of land by the United States. A significant portion of this land is considered to be wetlands by the Corps and EPA.

33. Alaska is committed to the wise stewardship of its land and natural resources. Alaska is also committed, through its Constitution, to "encourage the settlement of its land and the

development of its resources by making them available for maximum use consistent with the public interest." Alaska Constitution, Art. VIII, sec. 1.

34. Alaska has implemented a federally approved Coastal Management Program which has provided protection for coastal wetlands since 1979. This program provides for local, regional, and statewide management programs for coastal resources, and includes permit review standards for wetlands.

35. The compensatory mitigation requirements of the MOA will substantially increase the costs of any use or development of Alaskan wetlands construed to be subject to §404(b)(1) permit requirements.

36. Alaska has conveyed and will convey in the future some of its land to local and regional governments under the provisions of the Municipal Entitlements Act, AS 29.65. The ability of local and regional governments to use the land granted to them under the Municipal Entitlements Act will be greatly curtailed if the MOA is implemented.

37. The implementation of the MOA will interfere with and restrict the exercise of local and regional government authority over land use planning and management.

38. Implementation of the MOA will unduly restrict or eliminate opportunities for community expansion, development, and economic diversification in Alaska.

39. Alaska produces 25% of the oil used by the United States. All, or nearly all, Alaskan oil production is located on

land considered to be wetlands by the Corps and EPA. Most oil production facilities are temporary, rather than permanent, structures. The compensatory mitigation requirements of the MOA will substantially increase the costs of oil exploration, development, and production.

40. Alaska has leased, and intends to lease in the future, some of its land for oil and gas exploration, development, and production. Implementation of the MOA will adversely affect Alaska's ability to lease its land and will decrease the amount of money Alaska receives from leasing its land.

41. Implementation of the MOA will also adversely affect Alaska's industries including mining, timber harvest and processing, fish processing, and harbor projects, all of which make use of land considered wetlands by the Corps and EPA.

42. Implementation of the MOA will adversely affect the ability of Alaska's private landowners, including the Native corporations (its major private landowners), to develop their land. In 1971, Congress enacted the Alaska Native Claims Settlement Act which returned 44 million acres of land to the ownership of Alaska's indigenous people to foster economic self-sufficiency. A significant portion of this land is considered wetlands by the Corps and EPA.

43. Under the provisions of the Alaska Native Claims Settlement Act, Alaska has received title to land in trust for future municipalities that may be formed in Native villages. Much of this land is considered wetlands by the Corps and EPA.

Implementation of the MOA will adversely affect Alaska's ability to manage this land for the benefit of the communities as Congress intended.

44. In 1980, Congress enacted the Alaska National Interest Lands Conservation Act which set aside 110 million acres into the four federal management systems of National Parks, Wildlife Refuges, Wild and Scenic Rivers, and National Forests. Nearly half of these lands are considered wetlands by the Corps and EPA. When combined with prior designations of other federal lands for preservation status, a total of 157 million acres in Alaska are subject to restrictions on, or the prohibition of, development by federal law. Congress intended that state lands, Native lands, and federal lands outside the federal conservation system units would be available for direct economic development. Implementation of the MOA will significantly defeat that intent.

VIOLATION OF ADMINISTRATIVE PROCEDURE ACT

45. The MOA constitutes a statement of general or particular applicability and future effect designed to implement, interpret, or prescribe law or policy and is a "rule" within the meaning of 5 U.S.C. § 551(4).

46. The MOA constitutes the amendment or repeal of numerous existing regulations and its execution therefore is "rule making" under 5 U.S.C. § 551(5).

47. The defendants entered into the MOA without first publishing notice of their intent to engage in rule making in the Federal Register.

48. The defendants entered into the MOA without first requesting, receiving, and considering public comment on their proposal, as required by 5 U.S.C. § 553.

49. The defendants execution of the MOA violates 5 U.S.C. § 553 and the MOA is therefore invalid and of no effect.

VIOLATION OF EPA GUIDELINES

50. Implementation of the MOA will change the manner in which the EPA Guidelines are applied and interpreted in Alaska.

51. The execution of the MOA without complying with the formal rule making requirements of the APA violates the provisions of 40 C.F.R. § 230.2(c), which requires formal rule making for any modification to the basic application, meaning, or intent of the EPA Guidelines.

VIOLATION OF NEPA REGULATIONS

52. The MOA refers to and summarizes the regulations of the Council on Environmental Quality (CEQ) concerning mitigation. The CEQ implements the requirements of NEPA which are often applicable to the issuance of §404(b)(1) permits.

53. The CEQ regulations define mitigation to include five types of actions: avoiding impacts, minimizing impacts, rectifying impacts, reducing impacts over time, and compensating for impacts. 40 C.F.R. § 1508.20. The CEQ regulations do not rank the five types of action, prefer one over another, or require that they be considered in any particular sequence.

54. The MOA effectively prohibits the Corps from considering two of the five types of mitigation actions set forth

in the CEQ regulations when determining what mitigation measures should be required for §404(b)(1) permits. These two types of actions, rectifying impacts and reducing impacts over time, are those most often used in oil and gas exploration and production activities on Alaska's North Slope.

55. The MOA is invalid with respect to any permit subject to NEPA.

VIOLATION OF THE NATIONAL ENVIRONMENTAL POLICY ACT

56. The formulation, execution, and implementation of the MOA constitutes a major federal action significantly affecting the quality of the human environment. Implementation of the MOA will seriously and adversely affect the economic well-being of Alaska, its communities, and its residents.

57. The defendants have not complied with the requirements of NEPA, and with the NEPA regulations promulgated by the CEQ.

58. The defendants may not lawfully implement the MOA until they have complied with the requirements of NEPA by preparing an environmental impact statement.

RELIEF REQUESTED

Alaska requests that this court enter judgment in its favor as follows:

1. Enjoining the defendants from implementing the MOA without first complying with the rule making procedures of the Administrative Procedure Act;

2. Declaring that the MOA is a substantive rule that

may not be implemented by the defendants without first complying with the rule making procedures of the Administrative Procedure Act;

3. Declaring that the MOA requires a modification to the basic application, meaning, and intent of the EPA Guidelines and therefore cannot be implemented by the defendants without first complying with the rule making procedures of the Administrative Procedure Act;

4. Enjoining the defendants from implementing the MOA with respect to any permit subject to NEPA;

5. Declaring that the MOA is invalid with respect to any permit subject to NEPA because it requires the Corps to ignore applicable NEPA regulations regarding mitigation;

6. Enjoining the defendants from implementing the MOA without first complying with the requirements of NEPA;

7. Declaring that the MOA is a major federal action significantly affecting the quality of the human environment that may not be implemented without preparing an environmental impact statement; and

8. Providing such other relief as the court deems appropriate.

DATED: [illegible]

DOUGLAS B. BAILY
ATTORNEY GENERAL

By:
M. Francis Neville

Assistant Attorney General

By: ______________________
Mark P. Worcester
Assistant Attorney General

CERTIFICATE OF SERVICE

I certify that on March 1, 1990, mailed a correct copy of the State of Alaska's FIRST AMENDED COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF in the above-captioned proceeding to the following:

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Subcommittee on Water Resources
House of Rep.
Washington, D.C.

Peter DeFazio –

Please include this letter in the hearing records of March 13, pertaining to wetland protection.

I would like to see the Federal Clean Water Act strengthen protection of our nation's wetlands.

Wetlands are ancient in origin & serve many functions. I am dismayed at the rate at which they are disappearing. I do not believe they can be "re-created"! Protect what we have – in urban environments as well as in larger "preserves."

Draw the line & take a stand – protect our nation's wetlands to filter our water, provide plant & animal habitats, to offer flood control & supply some protected open spaces.

Thank you –

Jennifer J. Ayotte

Please send me notices pertaining to wetland issues!

STATEMENT OF THE HONORABLE WALLY HERGER
HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE
SUBCOMMITTEE ON WATER RESOURCES
MARCH 14, 1990

Thank you, Mr. Chairman.

I greatly appreciate the opportunity to submit a statement for the record of this hearing. The administration of Section 404 of the Clean Water Act of 1972, concerning wetland issues, is of great importance to a large number of people in my northern California district. I commend this Subcommittee for holding oversight hearings on the issue of the need for regulatory reform in this area.

I first of all want to state my strong concern with regard to the enforcement efforts of the Clean Water Act by the various federal agencies. Specifically, I am strongly opposed to definitions of wetlands developed by the Army Corps of Engineers and other agencies which include any area which holds water for a seven to ten day period. While I am generally supportive of efforts to preserve wetlands for wildlife habitat and other worthwhile purposes, I believe that this Subcommittee should carefully review the practical impact of strict enforcement of overly broad wetlands definitions under the Section 404 permit process.

For instance, designations of large areas of so-called "vernal pools" are adversely impacting many sectors of the community in the city of Chico, California. An estimated 50 percent of land previously designated for residential development in this rapidly growing community is currently being threatened by the Corps of Engineers' decision to place the land under protection of the Clean Water Act. Since this area is the only land that is readily available for expansion of housing, this effort to protect "vernal pools" (which are not generally recognized as being anywhere close to wetlands by the people of the community) is expected to cause housing costs to skyrocket. Average prices for starter homes in this rural community in northern California have already increased from $66,000 in 1986 to more than $100,000 in 1990. Essentially, the Corps' wetlands designations will result in affordable housing in Chico becoming a thing of the past.

This situation also is impacting the efforts of schools and hospitals to meet the demands placed on these facilities by a rapidly growing population. Section 404 permits are currently holding up construction of two elementary schools and one junior high school, all of which are desperately needed. Moreover, community officials are concerned that wetlands designations on land slated for the expansion of a local hospital may jeopardize the entire project.

Essentially, this situation is posing a serious threat to the quality of life in Chico and the surrounding region. This is most frustrating for the people who reside in this area when one considers that these designations are "wetlands" only in the very broadest sense. The adverse impacts of federal actions must be considered by Congress, and a more appropriate balance between environmental values and social/economic considerations must be found. I strongly urge this Committee to pursue legislative efforts to reform the regulatory process under Section 404 of the Clean Water Act and determine a reasonable policy for the preservation of wetlands.

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March 7, 1990

Honorable Henry Nowak
Subcommittee on Water Resources
Committee on Public Works
U.S. House of Representatives
Washington D.C. 20515

Dear Chairman Nowak:

Please include this letter in the 13 March hearing record on protecting our nation's wetlands. I support any efforts of your Subcommittee to strengthen the wetland protection of the Federal Clean Water Act.

I feel that protection of the remaining wetlands is imperative for wildlife, flood control, and plant life. Thank you for any efforts made on behalf of the wetlands!

Sincerely,

Cheryl R. Kershner

Cheryl R. Kershner

LAND IMPROVEMENT CONTRACTORS OF AMERICA

LICA

DEDICATED TO PROFESSIONAL CONSERVATION OF SOIL & WATER

Cathy —

April 20, 1990

Honorable Henry J. Nowak
2240 Rayburn House Office Building
Washington, D.C. 20515-3233

Dear Congressman Nowak:

We have tried without success to schedule an appearance before your committee. Cathy Evans has assured me, however, that our comments will be included in your committee's report. Therefore we are submitting our testimony by mail in hopes that our views will be taken into account as your committee finalizes its position on the wetlands issue.

We applaud your objective leadership in this very difficult environmental area.

Sincerely,

Henry Lamb

Henry Lamb,
Executive Vice President

1300 MAYBROOK DRIVE • POST OFFICE BOX 9 • MAYWOOD, ILLINOIS 60153-2434 • TELEPHONE 708 344-0700

LAND IMPROVEMENT CONTRACTORS OF AMERICA

LICA

DEDICATED TO PROFESSIONAL CONSERVATION OF SOIL & WATER

Honorable Henry J. Nowak
2240 Rayburn House Office Building
Washington, DC 20515-3233

April 23, 1990

Dear Congressman Nowak:

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Sincerely,

Henry Lamb
Executive Vice President

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**LAND IMPROVEMENT CONTRACTORS
OF AMERICA**
LICA
DEDICATED TO PROFESSIONAL CONSERVATION OF SOIL & WATER

A Statement in Support of

HR4133

Presented Jointly By:

LAND IMPROVEMENT CONTRACTORS OF AMERICA

ENVIRONMENTAL CONSERVATION ORGANIZATION

eco
environmental
conservation
organization

PENNSYLVANIA LANDOWNERS ASSOCIATION

LANDOWNERS ASSOCIATION of NORTH DAKOTA

AMERICAN SOD PRODUCERS ASSOCIATION

1300 MAYBROOK DRIVE • POST OFFICE BOX 9 • MAYWOOD, ILLINOIS 60153-2434 • TELEPHONE 708 344-0700

A Statement in Support of HR4133

We appreciate this opportunity to bring to this Committee, and to the Congress of the United States, a deep concern shared by a growing number of American citizens. We are concerned about the price we are forced to pay for environmental protection.

We who feel this concern most deeply are not anti-environmentalists. Quite to the contrary. Land Improvement Contractors of America (LICA) was working to improve the environment 40 years ago, before there was a Clean Water Act, before there was an EPA, before the environment became fashionable. We cannot be labeled as unconcerned or anti anything. We are the people who, for more than 40 years, have been protecting the property of environmentally conscious landowners by protecting streambanks from erosion, keeping topsoil and nutrients out of the water supply by the construction of state-of-the-art erosion control technology. Many of those individual landowners are members of organizations who share the concerns we express here.

We are concerned that the rush to save the environment in recent years has resulted in unexpected consequences and unanticipated costs. We applaud the environmental awakening, but at the same time, we urge the Congress to exercise extreme caution in the enactment of all environmental legislation.

More than 700 Bills have been introduced in this Congress which seek to improve the environment. Each Bill has its own constituency, all clamoring for your attention and support. Before another environmental Bill becomes law, before another vote is taken, please step back and look at some of the unexpected consequences and unanticipated costs of our recent rush to save the environment.

The Clean Water Act Amendments to the Federal Water Pollution Control Act, for example, had unexpected consequences that are forcing America to pay an unanticipated cost in the erosion of the very foundation of our democracy. I refer to the right to own property. The Constitution gives the guarantee of the federal government that private property cannot be taken by the government without due process and just compensation. The unexpected consequence of the Clean Water Act Amendments has the effect of taking private property without due process and without compensation. What the federal government giveth in the Constitution, is taken away by the EPA, or the Corps of Engineers, or the U.S. Fish and Wildlife Service.

We supported the Clean Water Act. And, as many of you were, we were shocked by the difference between what we expected and what the rule making process produced. Specifically, as published in the Federal Register November 13, 1986, we were shocked to learn that a 96 year old definition of the "waters of the United States" had been substantially expanded to include "All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds...." which, in practice, translates into virtually every mudhole and molehill on which a drop of water may fall.

This rule, which has the effect of law, allows the federal government to control, to exercise the rights of ownership, over any land which the federal government declares to fit the above criteria. The rights of the landowner who paid for the property, who continues to pay taxes on the property are completely ignored. Furthermore, the landowner who has the audacity to believe that the Constitution conveys some rights of property ownership, is also subject to severe fines and penalties should he try to exercise his rights of ownership.

This unexpected consequence is imposing upon our nation the unanticipated cost of eroding a foundation principle of our government. The right to own and control property, free from declaratory seizure by the government, is as vital to our democracy as the right to free speech and worship. This issue is not confined to wetlands determinations. It applies to The Endangered Species Act, and to any other environmental legislation that has the effect of eroding an individual's right to own and manage his own property.

Congressman Bill Alexander and the co-sponsors of HR4133 recognize the extreme danger of allowing the federal government, through its administrative agencies and the rule making process, to erode the fundamental Constitutional guarantees granted to every American. HR4133 seeks to partially correct bad law and bad procedure by exempting agriculture from the permitting requirements of Section 404 of the Clean Water Act. We strongly support the concept of Congress taking control from the administrators on this vital Constitutional issue, and restoring, at least to the agricultural community, the rights of property ownership.

The issue of property rights addressed here should not be confused with wetlands protection. Wetlands should be protected. Any wetlands that are of such value that they must be preserved to protect the public interest, should be purchased by the public and preserved by the public. It is fundamentally unfair, and bad law, to require an individual to invest his personal assets and continue to pay tax on property over which the federal government retains control. If this law is allowed to stand, what is to prevent the Department of Transportation or any other government agency from declaring that privately owned property must be made available for highways or other public use without compensation to the owner?

We recognize that there are many others who hold the need to protect wetlands at a much higher priority than the need to protect individual Constitutional rights. We contend that the question is not an either-or situation. We must protect both the wetlands, and the Constitutionally guaranteed property rights of individuals. Present law is simply an expedient that places the burden of ownership on the individual while it takes from the individual the rights and privileges of ownership.

Neither of the two arguments most often advanced in defense of present law will hold water when carefully scrutinized. The idea that the federal government has the right to control land use in much the same way that local government has the right to control land use through zoning ordinances, overlooks several important principles. Local zoning decisions are made by people who are directly accountable to an electorate; wetlands decisions are made by bureaucrats several times removed from public accountability. Local zoning decisions are made by local people who have a personal and economic stake in the local community; wetlands decisions are made by people who have neither personal nor economic interest in the consequences of their decisions. Local zoning decisions always provide an avenue of appeal and review; wetlands determinations provide only declarations, fines and penalties.

The other usual argument is money: "The government can't afford to buy all the wetlands that need to be protected." Individual property owners are frequently in the same situation of needing assets that they can't afford. Should an individual simply declare that he needs an additional 10 acres adjacent to his farm, declare that he is going to control the adjacent 10 acres, and forcefully prevent the deedholding owner from using the 10 acres, the usurping landowner would go to jail. The federal government, however, through the EPA, the Corps of Engineers, and the U.S. Fish and Wildlife Service, are declaring that they need wetlands, that they are going to control the wetlands, and they are forcefully preventing the deedholding landowner from using his property. The federal government doesn't go to jail.

If individual landowners can't afford to buy a needed property, they must do without, or find an alternative. The federal government may have to reconsider the value of wetlands if it has to buy them. It is indeed very easy for the federal government to afford property that others must buy. If the federal government cannot afford to buy the property the public needs, it should find an alternative other than simply taking by force the property others have bought.

There are other viable alternatives. Congressman Stangeland's Bill HR4353, would provide that privately owned wetlands become eligible for the Conservation Reserve Program. The PL-566 watershed program administered by the Soil Conservation Service encourages private owners and local sponsors of watershed projects to actually enhance wetland values in local watershed projects. There are literally dozens of alternatives available to protect, preserve, and enhance wetlands that will not erode the property rights of individuals.

We have no quarrel with the "no net loss" wetlands policy. We have no quarrel with efforts to enhance and expand wetland values. We ask only that the Congress of the United States be as diligent in its protection of Constitutionally guaranteed individual property rights as it is in its protection of wetlands. We ask that the Congress of the United States be as concerned about the habitat of individual landowners as the agencies of government are concerned about the habitat of wildlife. We ask that the Congress of the United States protect the individual landowner and independent business operator from the excesses of overzealous government agencies which, in pursuit of their own environmental agendas, have lost sight of one of the cornerstones of our democracy: the right to own property. The sacrifice of the right to own property is too great a price to pay to preserve any pothole or playa.

Respectfully submitted,

Henry Lamb

Henry Lamb, Executive Vice President
LAND IMPROVEMENT CONTRACTORS OF AMERICA, and

ENVIRONMENTAL CONSERVATION ORGANIZATION (ECO)
PENNSYLVANIA LANDOWNERS ASSOCIATION
LANDOWNERS ASSOCIATION OF NORTH DAKOTA
AMERICAN SOD PRODUCERS ASSOCIATION

Carl R. Lind
28773 Gimpl Hill Road
Eugene, OR 97402

7 March, 1990

Honorable Peter De Fazio
Subcommittee on Water Resources
Committee on Public Works
U.S. House of Representatives
Washington D.C. 20515

Dear Mr. De Fazio:

Please include this letter in the 13 March hearing record concerning wetlands and the Section 404 program of the Federal Clean Water Act.

I'm writing to express my concern about the continued destruction of our nation's wetlands. Nearly one half of our original wetlands have already been lost. Meanwhile, we continue to destroy them at an alarming rate--one estimate is 458,000 acres per year.

The destruction of this natural habitat is all the more alarming considering the important role that wetlands have. Wetlands help control floods, recharge groundwater supplies, filter pollutants and sediments from water, enhance fisheries, and control erosion. In short, the longterm viability of our groundwater supplies are dependent on wetlands.

Given the important roles that wetland play, there is no other landuse which merits their destruction. Farmers have traditionally drained wetlands to expand their acreage. In past years land has been left out of production due to farm surpluses while at the same time many farming regions are experiencing the beginnings of serious, longterm groundwater shortages. Developers have filled millions of acres of wetlands. The concrete parking lots and roads which have taken the place of wetlands are major causes of urban flooding.

I would strongly urge the Committee on Public Works to support strengthening amendments to Section 404. The 404 program needs to be expanded to cover draining and other forms of wetland destruction not currently covered. In addition, we need to help fund the States to carry out a separate wetland restoration program which would increase the acreage of wetlands in this country. However, it is not in the best interests of our nation's wetlands to turn the entire wetland permitting program over to the states.

Here in Eugene, the city is proposing to develop a large section of wetlands for industrial purposes. Apparently, they have already established a network of roads and infrastructure for this area (see attached article).

I am also concerned about Region X EPA providing grant money to Lane County to carry out an Advanced Identification of Wetlands study, which will only result in the identification of wetlands to be filled, but which will do nothing to protect wetlands identified as critical habitats.

In conclusion, it is time for Congress to step forward and address the problems of continued wetland loss. Please send me a copy of the hearing record when it becomes available.

Sincerely,

Carl R. Lind

Carl R. Lind

FRIENDS OF THE EARTH™
Environmental Policy Institute
OCEANIC SOCIETY

20 March 1990

The Hon. Henry Nowak
Chair
Subcommittee on Water Resources
Committee on Public Works and Transportation
Room B-370A
Rayburn House Office Bldg.
U.S. House of Representatives
WA D.C. 20515

Dear Chairman Nowak:

The enclosed testimony and material is submitted for the hearing record of 13 March on the status of our Nation's wetlands. Because of the short notification for the hearing, we were not able to submit this material by the date of the hearing.

Thank you for the opportunity to provide these comments for the record.

Sincerely,

David E. Ortman
Northwest Representative

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FRIENDS OF THE EARTH
Environmental Policy Institute
OCEANIC SOCIETY

Statement of David E. Ortman
Northwest Representative
for the Hearing Record
on behalf of

Environmental Policy Institute
Friends of the Earth
Oceanic Society

submitted to the
Subcommittee on Water Resources
Committee on Public Works and Transportation
U.S. House of Representatives

concerning "Our Nation's Wetlands"

13 March 1990
Washington D.C.

My name is David E. Ortman, Northwest Representative for Friends of the Earth, 4512 University Way N.E., Seattle, WA 98015. Friends of the Earth has recently merged, with the Environmental Policy Institute and the Oceanic Society. This testimony is submitted on behalf of the 45,000 members and supporters of our new global environmental advocacy organization, known as collectively as Friends of the Earth - U.S. We have affiliated organizations in 39 foreign countries throughout the world.

The Northwest office of Friends of the Earth covers the states of Washington, Oregon, Idaho and Montana and has been involved in Section 404 issues since 1975 including: i) commenting on Section 404 regulations; ii) review of Section 404 public notices issued by four Corps Districts in the region; and, iii) as plantiffs in Section 404 lawsuits. We would request that this testimony and the accompanying material be placed in the hearing record of 13 March 1990.

OVERVIEW

Friends of the Earth supports strengthening the Federal role in protection of our nation's wetlands. We cannot afford to let 50 states and more than 3,000 counties continue to make a mixture of unrelated decisions in the absence of clear Federal wetland protection policies and aggressive regulatory programs.

Many estuaries and watersheds have already suffered large amounts of wetland loss. According to the Puget Sound Water Quality Authority, for example, 60% of Washington State's coastal wetlands in eleven major river deltas in Puget Sound have been converted to other land uses.

Existing wetland programs simply do not protect this vital resource base. In the Northwest, for example, while some of the most ill-conceived projects do drop by the wayside, a persistent developer can usually convince the Corps to issue a Section 404 permit to destroy a wetland which may be over ten thousand years old in return for the "creation" of a new wetland. This can be similar to losing a 500 year old forest with its biodiversity and replacing it with a monoculture of seedlings.

Each Corps District is required to issue a monthly list of permit decisions. The following is a summary of the four Northwest Corps districts since 1985:

PORTLAND DISTRICT: 13 Section 404 denials over 48 recorded months.
SEATTLE DISTRICT: 11 Section 404 denials over 47 recorded months.
OMAHA DISTRICT (including MT): 28 Section 404 denials over 57 recorded months
WALLA-WALLA DISTRICT: 9 Section 404 denials out of 23 recorded months.

To properly document the extent of wetland losses, Corps Districts should keep track of the number and acreage of wetland permits issued. However, many Corps Districts do not even report wetland fills as a separate category on their monthly listings.

In addition, the Environmental Protection Agency (EPA) has not adequately used its veto descretion over the Corps under its 404(c) authority. The purpose of 404(c) is to allow EPA to protect our nation's wetlands by prohibiting the use of any area for the disposal of dredged or fill material. Region X EPA has never protected a single wetland acre or function under its already existing 404(c) veto authority. This is not a record which reflects a commitment to wetlands protection.

CORPS/EPA Memorandum of Agreement

According to the Corps and EPA, which signed a Memorandum of Agreement (MOA) on 14 November 1989, this MOA does not represent or establish any new wetland policy. Nor does it set out or implement the "no net loss" goal called for by President Bush. In addition it was not subject to public review.

Congress should set forth a clear goal of wetland restoration and recovery, not just "no net loss". Only by an aggressive effort of restoring previously diked or drained wetlands, can we recover the wildlife, fisheries, flood control and other benefits which have been lost over the past two centuries.

CONGRESSIONAL ACTION

Federal programs have fostered an abysmal record of wetland destruction despite the inordinate importance of these habitats. It is imperative that Congress address wetland protection issues.

Despite the President's Domestic Policy Council debate over a "no-net loss policy" there are certain changes to wetland policy and protection which this Subcommittee needs to resolve in the short term:

1. Congress should authorize and provide funding for state wetland restoration programs.

The permitting program should remain at the federal level. The role of the States should be to focus on the restoration of wetlands, as well as using their existing authorities under Section 401 of the Federal Clean Water Act and the consistency provisions of the Coastal Zone Management Act to protect existing wetlands. Section 401 requires states to issue "water quality certification" for all 404 permits. The Coastal Zone Management Act requires that all 404 permits be consistent with Federally approved state coastal zone management programs.

Without specific goals and targets, however, we will not be able to measure the results of any National Wetlands Policy. Therefore, each State should also be required to prepare a plan which would:

* provide an analysis of the acreage of wetlands lost since historical times.
* inventory previously diked and drained wetlands areas.
* outline a five-year program of restoration to increase each state's wetlands acreage by 10% as a minimum.

2. Congress should broaden Section 404 to specifically include more than just the disposal of dredged or fill material. Congress should also define what dredge material is.

Currently, the Section 404 program covers only the discharge of dredged or fill material. However, there are many other activities, including diking, draining, and waste disposal, which can also destroy wetlands. These activities need to be added to the program.

In addition, a definition of "fill material" should be established, a task EPA and the Corps have not been able to accomplish in the last fifteen years. "Fill Material" should be defined as any pollutant which replaces portions of waters of the United States or which changes the bottom elevation of a water body for any purpose.

3. Congress should improve public participation in the permit decision-making process.

Corps Public Notices for wetland fill applications are boilerplate documents. Proposed wetland mitigation/creation plans are usually not presented in a detailed fashion and other basic data, such as type of fill, are often lacking.

The National Environmental Policy Act (NEPA) requires an agency to prepare an Environmental Assessment (EA) to determine whether a Finding of No Significant Impact (FONSI) should be issued or whether an Environmental Impact Statement (EIS) should be prepared for major federal actions affecting the environment. Under existing Corps regulations, however, the Corps refuses to make draft environmental assessments available to the public. At least one Federal District Court in Oregon has found a similar agency action in violation of NEPA. Particularly for non-water dependent developments with out-of-kind, off-site mitigation proposals, public review of the draft environmental assessments is needed.

In addition, current Corps practice is to avoid preparing environmental impact statements for most Section 404 wetland fill activities under the narrow argument that mitigation will balance any wetland losses that might occur. In our view, an EIS can be particularly useful at examining alternatives and for analyzing the kind and type of mitigation involved.

4. Congress should remove EPA authorization to conduct "Advanced Identification of Wetlands."

EPA's Advanced Identification of wetlands (ADID) program has helped accelerate the loss of wetlands rather than contribute to a goal of "no net loss". In 1989, EPA Region X released a draft recommendation for an ADID survey in the Colville Delta of Alaska which identified approximately 25% of 135,000 acres of wetlands as suitable for filling. In practice, ADID is being used by EPA, in Alaska and other places, to identify wetland sacrifice areas for development with no protection afforded the critical wetlands identified by the ADID process.

The entire intent of ADID is given in the title to Subpart I of 40 CFR 230.80: "Planning to shorten permit processing time". The ADID process is only minimally spelled out in this section. No definitions are given. No public hearings are required. Only a poorly worded "appropriate public notice" is mentioned in 230.80(c). However, the end result is all too clear in subsection (b):

> "The identification of areas that generally will not be available for disposal site specification should not be deemed as prohibiting applications for permits to discharge dredged or fill material in such areas." Its purpose is merely " to facilitate individual or General permit application and processing."

The more damaging problem with ADID, is that by identifying "lower quality" wetlands as suitable for filling, these wetlands become unavailable for restoration efforts. This is not only contrary to a goal of no net loss, it completely undermines the long-term goal of increasing our nation's wetland acreage.

5. Congress should expand the Federal Clean Water Act's citizen suit provision to allow for improved enforcement of Section 404 permit conditions.

The Federal Clean Water Act allows citizens to bring suit against a company in violation of its National Permit Discharge Elimination System (NPDES) permit. However, the citizen suit provision does not apply to Section 404. An applicant in violation of the conditions of a Section 404 permit can carry on business as usual without exposure to a suit brought by the public.

Enforcement of permit condition violations are not a priority at EPA. Moreover, the Corps does not have adequate funding for its regulatory program to enforce against all unauthorized fills, much less monitor condition compliance on thousands of existing permits. If the Corps is unwilling to enforce permit conditions, citizens should be able to step in and fill this void.

6. Congress should prohibit the filling of wetlands for non-water dependent purposes.

We remain concerned that too many non-water dependent projects are granted permits for wetland filling. In late 1988, for example, the Portland District Corps issued a fill permit for a Fred Meyer shopping mall near Warrenton, Oregon - clearly a non-water dependent use - despite the presence of an empty 250-acre industrial site less than a mile from the proposed development area. Region X EPA did not object to the project and no environmental impact statement was prepared.

Even when EPA and other resource agencies do object to a non-water dependent use, the Corps will side with the applicant. On 19 January 1990, the Portland Corps District issued a wetland fill permit to construct softball/baseball fields with parking in 5.4 acres of wetlands adjacent to the Tualatin River in Oregon. This permit was issued by the Corps over the objections of the resource agencies and citizen groups.

7. Congress should direct the Corps to increase its application fee structure to fully recover the costs associated with implementing this program.

The current permit application fee of $10.00 is far too low to cover the costs of administrating this program. It does not provide for site inspections, wetland determinations, monitoring or compliance investigations. In effect, the government is subsidizing the continued loss of wetlands in this fashion. In addition, the associated costs of reviewing wetland applications by other Federal and state resource agencies is not factored in.

SUMMARY

In conclusion, we need environmental leadership to restore, not just save our remaining nation's wetlands. Perhaps we need a new approach, a new way of looking at what were called, swamps and bogs in the past. Washington State law, for example, defines areas that are subject to being submerged by water as "marginal lands." Such lands, according to this law, constitute ". . . a serious and growing menace which is condemned as injurious and inimical to the public health, safety, and welfare of the . . .people of the state." Since, this act was passed, however, there has never been a headline, "Wetlands Attack Three Citizens at Washington Beach."

We need another term for describing wetlands, more poetic, more lyrical. These areas could be called "watermeadows" for instance, habitats which are productive in their own right and do not need human management in order to provide human benefits." Such watermeadows, can include forested wetlands, as well as other wetland types.

It is time for a new legislative initiative, especially for those watermeadows in our coastal states where the greatest percentage of our population now lives. We pledge to work with you in that effort.

Please send us a copy of the complete hearing record on this subject when it becomes available. Thank you for the opportunity to submit these comments.

THE ENVIRONMENTAL FORUM

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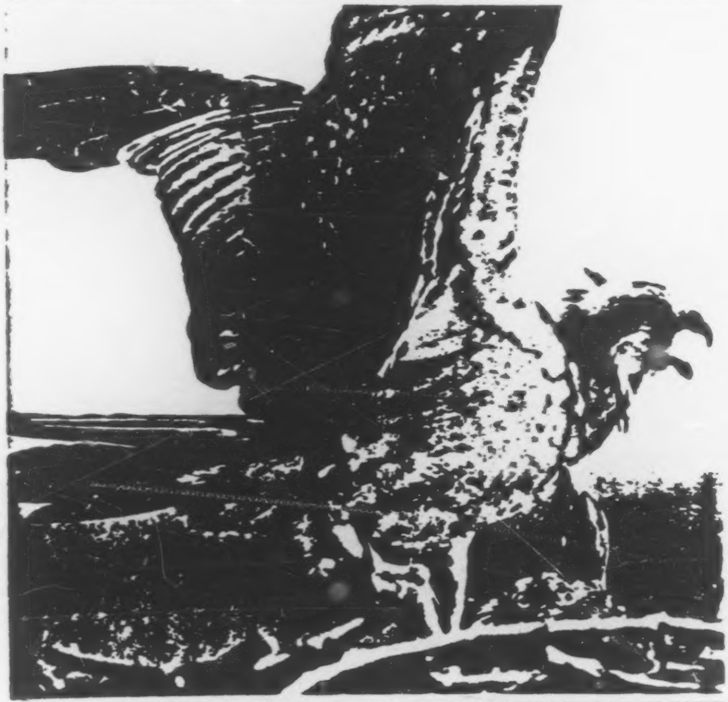

Bridging Troubled Waters: A National Wetlands Policy
Lender Liability Under Superfund
The Real Cost of the Nuclear Weapons Plant Cleanup

POINT•COUNTERPOINT

What Should Our National Wetlands Policy Be?

For decades, many Americans have regarded wetlands as best suited for "reclamation," useful only for filling, waste dumping, or channelization for larger commerce. As a result, more than 100 million acres of wetlands have been lost. We now recognize that wetlands provide essential habitats for wildlife and plants, water pollution controls, and other important benefits, such as flood prevention. Public concern over the nation's remaining 99 million acres has mounted as these values have become more widely known and appreciated. A variety of interests are now demanding more effective protection. The most recent and best known effort is the EPA-initiated National Wetlands Policy Forum, representing a wide diversity of opinions. Last November, The Forum issued a report making recommendations to states, Congress, EPA, and other federal agencies to reframe national wetlands policies. Another study by Congress' General Accounting Office concluded that the federal wetlands program needs clarification in light of intractable differences among the federal agencies charged with its operation. The answers to many policy questions are still up for grabs: Should the Clean Water Act be amended to more specifically address wetlands protection? Should there be a new federal wetlands policy? How should wetlands protection responsibilities be shared among—and within—the federal, state, and local governments? Can manmade wetlands replace the functions offered by natural systems? This forum offers five important perspectives on how the United States can create and implement a better system of wetlands protection.

New Legislation, Not "Business as Usual"

Jan Goldman-Carter
National Wildlife Federation

A national wetlands policy? *What national wetlands policy?* Is it the wetlands policy embodied in the Clean Water Act's §404 permit program, despite the fact that the U.S. Army Corps of Engineers, after overseeing the program for sixteen years, still claims it is not a wetlands protection program? Or rather, is it the wetlands policy that allows the Corps to use appropriated funds to desecrate the bottomland hardwood wetlands of Mississippi's Yazoo Basin?

The point is, this country does not have a clear and consistent national wetlands policy. The wetlands policy articulated by the National Wetlands Policy Forum—to achieve no net loss of

(continued on page 22)

Jan Goldman-Carter is counsel to the Fisheries and Wildlife Division of the National Wildlife Federation. She has previously served as a biologist for EPA, the U.S. Corps of Engineers, and the U.S. Fish and Wildlife Service before entering the practice of law. She has actively participated in wetlands protection efforts through litigation, congressional testimony, and administrative agency involvement.

Protecting Wetlands—An Action Agenda

Governor Thomas H. Kean
State of New Jersey

Wetlands are among the most valuable of America's natural resources. Many people are aware of the benefits of wetlands, from groundwater recharge and sediment control to the provision of fisheries and wildlife habitat. As a governor, I am most aware of what happens when wetlands are lost: increases in flooding, reductions in fish and shellfish harvests, and the pollution of streams.

Everyone involved in the wetlands issue agrees that something needs to be done. Yet, everyone has different ideas about what to do. Crafting a broadly acceptable set of recommendations to increase both wetlands protection and the predictability of the permit process for

(continued on page 22)

Thomas H. Kean has been Governor of New Jersey since 1982. As Governor, he has overseen the development and implementation of a broad range of land preservation and pollution control initiatives, including open space acquisition, wetlands regulation and hazardous waste cleanup. He is Chairman of the National Wetlands Policy Forum, which released its Final Report in November 1988.

Putting States in the Driver's Seat

J. Michael Luzier
National Association of Home Builders

I recently received an all-too-familiar phone call from a builder. Having received all state and local construction permits to fill an acre of wetlands, the builder began grading operations and poured footings for the houses. Roughly a year after construction had begun, and two years after completion of the site plans, a concerned citizen informed the U.S. Army Corps of Engineers of a possible violation of §404 of the Clean Water Act. The Corps investigated the complaint, determined that the builder had indeed filled wetlands without a §404 permit, issued a "cease and desist" order, and required the builder to prepare an "after-the-fact" §404 permit application, along with

(continued on page 24)

Mike Luzier is Assistant Director and Environmental Planner for the National Association of Home Builders. He provides technical assistance on a wide variety of environmental and land development issues and works closely with federal and state regulatory agencies. He is responsible for several ongoing NAHB projects, including the Wetlands Task Force and Stormwater Sampling Program. The views expressed in this Article are those of the author, and not necessarily those of the NAHB.

Let's Call Them Watermeadows

David E. Ortman
Friends of the Earth

The Environmental Protection Agency (EPA) is proceeding in a direction destined to increase the loss of our nation's wetlands. The Agency is supporting efforts to remove itself entirely from review of the U.S. Army Corps of Engineers' §404 permit program, and instead delegate its responsibilities to the states, pushing ahead with "advanced identification" of those wetlands that can be developed, and backing away from its Attleboro Mall decision in Massachusetts concerning mitigation and development alternatives.

At the same time as the release of the EPA-funded National Wetlands Policy Forum recommendations, there is a new push to establish a national wetlands policy that focuses on the concept of "no net loss." In light of EPA's backpedalling, what should the Congress and the Bush Administration do? The following ten points address several problems with the current policy and offer suggestions for improvement.

First, perhaps we should abandon the term "wetland." Washington State law defines areas that are subject to being submerged by water as "marginal lands." Such lands, according to the law, constitute "a serious and growing menace which is condemned as injurious and inimical to the public health, safety, and welfare of the . . . people of the state." However, I have yet to see a headline, "Wetlands Attack Three Citizens at the Beach."

We need another term for describing

(continued on page 24)

David E. Ortman is the Northwest Representative for Friends of the Earth in Seattle, Washington. He currently serves on the Board of the national Coast Alliance, and has contributed wetlands articles to ELI's National Wetlands Newsletter.

Effective Wetlands Policy: Sticks or Carrots?

Arnold van der Valk
Iowa State University, Department of Botany

The ineffectiveness of the nation's present wetlands policy is clearly exemplified in its application to agriculture. Despite a history of scattered and incongruent programs addressing agricultural wetlands, the recent proposals of the National Wetlands Policy Forum may provide the guidance that has been so sorely lacking. Among other things, this Forum suggests that in order for future federal wetlands policy to have force against agricultural interests, it must provide economic incentives to preserve existing wetlands and to restore those that have been drained.

The legislation currently considered to cover wetlands protection, §404 of the Clean Water Act, does not require permits for *normal* farming practices such as "minor drainage." Consequently, only the 1985 Food Security Act (FSA) even addresses agricultural wetlands issues. This milestone—or from many farmers' perspectives—"mill stone" legislation declares that farmers who convert wetlands to cropland are ineligible for price support payments on annual crops, as well as for several other federal loan and disaster payment programs. However, the Act does not prohibit, nor even require a permit for the draining of wetlands.

This wetlands conversion—or "swampbuster"—provision of the Act, albeit inherently weak and poorly enforced, is opposed by many farm groups and legislators in the "prairie pothole region," particularly in North Dakota.

(continued on page 26)

Arnold van der Valk teaches wetland ecology at Iowa State University and is Director of its new Research Unit for Landscape Ecology. He is a principal investigator of the Marsh Ecology Research Program, a ten year study of how prairie wetlands respond to water level changes, and the editor of the book, Northern Prairie Wetlands.

S.C. Delaney/EPA

Clams in Assateague Island wetlands, Maryland

and conduct research. Incentives must be provided for proper private management, such as expanded agricultural wetlands protection programs. Finally, any remaining government incentives to destroy wetlands must be ended.

We must act now to save wetlands. The cost of inaction is unacceptable. The status quo is not working: each year the nation loses more and more of this precious resource. The Forum is committed to seeing that its recommendations don't fall on deaf ears. But Congress must act. Federal agencies, states and local governments must act. Only by working together can we preserve and restore this crucial part of our natural heritage. ☐

Luzier

(continued from page 20)

plans for mitigation or compensation for the wetlands. Both the application and the mitigation plans are currently pending Corps approval. Every passing week costs the builder approximately $29,000 in carrying expenses, and he estimates that unless he resolves this problem in less than a month, he will be forced to file for bankruptcy.

This scenario is not an aberration. Its frequent recurrence raises fundamental questions about the effectiveness of the federal permit program. Seventeen years have passed since the enactment of the Clean Water Act, and yet few property owners even know what wetlands are. In the case above, the builder knew enough to get a state wetlands permit, yet he had no idea that a portion of his land was considered to be a wetland by the federal government. While he should not be excused for his failure to know all applicable laws, his ignorance of them suggests an additional failure on the part of the federal government.

EPA's definition of wetlands encompasses vast areas that would be too dry to qualify under a general interpretation of the term. Unfortunately, the federal government has not communicated this to the regulated community. As a result, property owners continue to rely upon the layperson's concept of a wetland and run into problems such as those described above.

The lack of federal commitment to provide state and local governments and the regulated community documentation of this broadly defined resource has prevented the §404 program from achieving the end it seeks—better land planning. Good planning requires good data; however, information on the location of wetlands has not been incorporated into the local comprehensive plan, nor, as a result, into the site planning process itself. The program currently places the burden for identifying the resource on the permit applicant. Thus, wetlands are identified without adequate coordination from case to case, and applicants often find themselves embroiled in disputes over wetlands boundaries. This is antithetical to planning, and incredibly inefficient.

Achieving the objective of wetlands protection through improved site planning will require the federal government to get out of the permit business so that its resources can be focused on what it supposedly does best—performing research and disseminating information. More specifically, the respective roles of the federal and state governments should be as follows:

The underlying problem with the nation's wetlands protection effort is that the wrong level of government is running the permit program.

- The federal government should provide the basic standards for wetlands protection. Specifically, EPA should continue to develop the technical standards for mitigation, wetlands delineation, and cumulative impact analysis. At the federal level, two important changes should occur. First, EPA should map all wetlands on a scale useful for the local site planning process and based on the EPA/Corps regulatory definition, not the U.S. Fish and Wildlife Service definition used for the National Wetland Inventory Maps. Critics may object to the additional expense, but topography, soils, and floodplains have been mapped, so why not wetlands? If wetlands are as important as EPA claims, the nation should be willing to pay the price to document their location. Second, direct permit processing should be transferred to the states since both EPA and the Corps are too far removed from the site planning process to be effective or efficient.

- EPA's role should be reviewing programs. Once a state accepts full responsibility for wetlands protection, EPA should periodically review the total effectiveness of the program, but not review individual permit decisions. This will provide the permit applicant with far more certainty than currently exists by precluding a costly eleventh-hour entry into the decisionmaking process by the federal government. As a safeguard, EPA will still retain its §404(c) veto authority, but with an important qualification: the wetlands subject to §404(c) actions would need to be identified on the wetlands maps EPA prepares.

- The states' role should be two-fold. First, a statewide protection plan should be developed to identify both wetlands that are too vital to be lost, and wetlands of lesser quality which could be subject to the general permitting process. In addition, the plan would identify opportunities, standards and procedures for mitigation "banking," or creating or restoring degraded wetlands as compensation for altering other wetlands sites. The states' second role should be to ensure that local comprehensive land use plans are prepared and administered in accordance with the wetlands protection plan.

These suggestions are not particularly novel, nor are they a perfect solution to the loss of wetlands. However, the federal government has had seventeen years to make its mark in wetlands protection, and by most accounts it has not done particularly well. Perhaps it is finally time to consider a different approach. ☐

Ortman

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wetlands, more poetic, more lyrical. These areas should be called "watermeadows," for habitats that are productive in their own right and do not need human management in order to provide human benefits. This simple step would alter the negative perceptions currently attached to wetlands that encourage their destruction.

Second, the Clean Water Act should

be amended to incorporate the U.S. Fish and Wildlife Service's jurisdictional definition of a watermeadow. It is a broader and more biologically correct definition than that currently used by the Corps. In addition, all watermeadows should be included in the permit program, especially "isolated wetlands," a class of watermeadows not connected to navigable waters. Watermeadow draining and waste disposal activities currently exempted from the program should also be included.

Third, EPA has not presented a persuasive case for proceeding with the "advanced identification" of watermeadows (ADID) under the Clean Water Act. EPA regulations allow the Agency to identify watermeadows prior to a fill permit application. However, the actual intent of ADID is indicated in its regulatory title: "Planning to Shorten Permit Processing Time." The ADID process is only minimally spelled out. No definitions are provided. No public hearings are required. Only an undefined "appropriate public notice" is mentioned. In reality, ADID is being used by EPA in Alaska and other places to identify watermeadow sacrifice areas for development. No protection is afforded to critical watermeadows identified by the ADID process. In fact, EPA's Region X office recently withheld 78 documents and partially denied a Freedom of Information Act request by Friends of the Earth to provide all information on its ADID program on grounds that the information is "predecisional." EPA should terminate its ADID program and transfer the funds for use in completing the U.S. Fish and Wildlife Service's watermeadow inventory mapping program.

Fourth, the mechanics of the Clean Water Act §404 permit program must be changed to ensure more effective administration. For example, in many Corps Districts, permit reviewers receive the job title of "project managers" and act as proponents for project applicants rather than as neutral reviewers. While members of the environmental community believe that EPA is the logical agency to take over the entire §404 program, its lack of interest makes this politically difficult. In fact, in meeting with members of the environmental coastal community in February of 1988, former EPA Administrator Lee Thomas made it clear that the Agency no longer wanted to be involved with the §404 program.

One suggestion made by EPA staff locally would be to allow the Corps of Engineers to continue processing applications for the disposal of dredged or fill material. However, all permit decisions regarding watermeadows would be made by an EPA Regional Administrator, not the Corps District Engineer. So the Corps would simply pass along completed applications to EPA which would make the final permit decision. This would involve a minimum burden to EPA, and not disrupt the current program.

Fifth, no "net" wetland loss is, by itself, not an acceptable policy. "Net" is merely a weasel word to allow continued watermeadows filling with mitigation. Current research shows that in most cases recreating or replacing identical functions and values of watermeadows is rarely possible. In addition, many estuaries and watersheds have already suffered extensive watermeadow filling. According to the Puget Sound Water Quality Authority, for example, sixty percent of the coastal watermeadows in eleven major river deltas in Puget Sound have been converted to other land uses. These lands need to be restored, and not forgotten.

No "net" wetland loss is not an acceptable policy.

Sixth, states can currently halt a watermeadow fill by the denial of a §401 water quality certification, by the denial of consistency with the state's Coastal Zone Management Program, and by the denial of any other state or local development permit that may be required. States should be encouraged to use and expand these authorities to prohibit specifically the filling of critical watermeadow areas.

The states' role should be to begin the task of restoring previously destroyed watermeadows, rather than to duplicate the §404 permit process. But without specific goals and targets, we will not be able to measure the results of any National Watermeadow Policy. Therefore, each state should also be required to prepare a plan that would provide an analysis of the acreage of watermeadows lost, an inventory of watermeadow areas previously diked or drained, and an outline of a five-year program of restoration by purchase, easement or donation to increase each state's watermeadow acreage by at least 10 percent. Congressional legislation should be passed to establish a National Watermeadow Restoration Fund to aid the states.

Seventh, agricultural activities present a unique opportunity for the restoration of watermeadows. For example, the Department of Agriculture began a five-year dairy herd buy-back program in 1986 which is intended to reduce the over-production of dairy products and the resulting federal subsidies. Many dairy herds in the Pacific Northwest and Great Lakes area are grazed on diked pastures. A new agricultural watermeadows program could require restoration of these pastures into productive watermeadows by removing dikes. This would permanently reduce the amount of dairy herd grazing area and help stop a future cycle of dairy product over-production.

Eighth, no watermeadows should be filled for non-water dependent uses. A policy of "no net loss" has become the developers' slogan for non-water dependent development combined with "mitigation." In late 1988, for example, the Portland District Corps issued a watermeadow fill permit for a Fred Meyer shopping mall near Warrenton, Oregon—clearly a non-water dependent use—despite the presence of an empty 250-acre industrial site less than a mile from the proposed development area. EPA Regional Administrator Robie Russell caved in and approved the watermeadow fill "with mitigation," despite clear evidence of a non-wetland alternative. Furthermore, no environmental impact statement was prepared.

Ninth, it would be difficult for Congress to pass a stronger prohibition against the filling of watermeadows than already exists under §404(c) of the Clean Water Act. EPA is empowered to prohibit the use of any area as a disposal site that will have an unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas, wildlife, or recreational areas. Still, there remains an imbalance between the manner in which the Corps currently reviews permits and EPA's prohibition authority:

Corps' §404 Program	EPA'S §404(c) Process
1. No notice in Federal Register of §404 applications to fill watermeadows	Notice given in Federal Register
2. "Public Interest Standard" presumption in favor of the applicant	Much harder "Unacceptable Adverse Effect" standard
3. Boiler plate public notices:	
—No characterization of site	Detailed characterization of site
—No identification of species characterization	Detailed characterization of species
—Normally no identification of watermeadow types or functions	Detailed identification of watermeadow types and functions
4. Public Hearing normally refused	Public Hearing normally held
5. "Mitigation" as an acceptable justification for non-water developments	"Mitigation" normally not an acceptable justification for non-water dependent developments.
6. Decision of District Engineer to issue usually final unless under §404(q)	Decision of Regional Administration not final—must be reviewed and final decision made by EPA Asst. Ad. for Water
7. Office of the Chief of Engineers can demand that a District/Division issue a permit previously denied	Asst. Ad. for Water will not initiate a §404(c) Engineer action to preserve a watermeadow area

In effect, the Corps' §404 regulations make it ridiculously easy to issue watermeadow filling permits, while the EPA §404(c) regulations make it extremely difficult to prohibit such filling. Until watermeadow fill decisions are removed from the Corps, EPA should amend its regulations to allow Regional Administrators to make the final §404(c) decisions.

Tenth, the EPA-funded National Wetlands Policy Forum should not be adopted. Drafts of the report were not circulated for public comment. Among its worst recommendations is the removal of EPA from the review of §404 dredge and fill permits.

In summary, the tragedy is that while fingers point at the Corps and its dismal administration of the §404 program, it is EPA that has the final veto authority and deserves the final blame for watermeadow losses. A "kinder and gentler" administration should also be kinder and gentler to our nation's watermeadows. A national policy of protection and restoration would be a good place to start. ☐

van der Valk

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Farmers do not like being told what to do with their land; they claim that the swampbuster provision was included in the FSA without ample opportunity for discussion and comment by farm groups. Most of all, agricultural workers resent that farm program benefits are tied to an environmental issue that they consider unimportant. Consequently, the application of the federal "stick" to farmers has failed to result in effective wetlands protection. Instead, it has merely raised farmers' level of environmental paranoia, and made environmentalists more leery of them.

However, the Conservation Reserve Program (CRP)—another provision of the Act that does *not* deal with wetlands per se—has produced unexpected benefits. This program was designed primarily to reduce the overproduction of certain annual crops by removing "highly erodible cropland" from production. By virtue of the CRP, and with the help of the U.S. Fish and Wildlife Service, Soil Conservation Service, Ducks Unlimited, and various state and county agencies, farmers have voluntarily restored hundreds of prairie potholes in Iowa, the Dakotas, and Minnesota. Although the total restored acreage is still quite modest, the federal "carrot" seems to be more effective than the stick in bringing about desirable changes in the land use of farms.

Future federal wetlands policy, if it is to be successful with farmers, must include economic incentives. The National Agricultural Wetlands Reserve Program is the most important and consequential suggestion proposed by the National Wetlands Policy Forum for the next farm bill. Although it is a logical extension of the existing CRP, it moves beyond by providing for the permanent acquisition of wetlands. Thus, it ensures the protection of lands in the CRP program even if there is an increase in crop prices. This program would make the swampbuster provision of the FSA more palatable to farmers by compensating them for leaving their wetlands alone. In addition, it is compatible with the goals of the North American Waterfowl Management Plan and thus should be popular with those interested in waterfowl conservation.

The implementation of a National Agricultural Wetlands Reserve Program provides an opportunity to improve relations between conservation and farm groups. Conservationists routinely list a number of reasons for preserving wetlands, ranging from the need for flood plains and the improvement of water quality, to the protection of endangered species and archaeological sites. By and large, farmers do not consider most of these putative environmental values important. Nevertheless, farmers *do* have environmental concerns. Of particular importance are the human health implications of surface and ground water contaminated by fertilizers and pesticides. The preservation or restoration of certain wetlands may greatly reduce such environmental impacts of agriculture. For example, by using wetlands to absorb agricultural runoff, contamination of surface and groundwater can be lessened. In general farmers would be more supportive of wetland preservation if they perceived it primarily as a link to health concerns.

Thus, a National Agricultural Wetlands Reserve Program should be established that stresses wetland conservation primarily for water quality benefits, and only secondarily for the preservation of wildlife habitats. Criteria for selecting the wetlands to be included in the program should give the highest priority to those receiving agricultural runoff, such as wetlands into which existing drainage ditches run, or those into which major surface water flows occur during storms or spring runoff. In addition, the selected wetlands must either be large enough to process the annual input of nutrients and pesticides, or have adequate upland buffers to prevent them from being destroyed by sediment inflow.

There is no point in establishing a National Agricultural Wetlands Reserve Program if the land it covers will eventually be destroyed or become so contaminated by agricultural runoff that it will become a hazard for waterfowl or other animals. To avoid the latter, research is needed immediately to determine the sustainable loading rates of nitrate, sediment, and various pesticides, as well as the long-term effects of these contaminants in wetlands. Studies are also needed to discover the best methods for restoring wetlands, and how effectively restored wetlands function as environmental filters. ☐

economic consequences of the management goals. In their view, the lack of such an analysis may make it difficult to maintain the strong political commitment and citizen involvement that appear to be so critical to the success of the restoration effort. As socioeconomist Peter Burbridge commented, "This notion of 'the land of pleasant living' is irrelevant to the Third World. People of the Chesapeake should recognize instead the economic and socio-cultural advantages of preserving the Bay because of its outstanding resource development potential."

Coastal Seas' Governance is off to an auspicious beginning. More hard work, stimulating discussions, and innovative recommendations lie ahead as the participants grapple with one of the modern world's greatest challenges—the long-term preservation of our precious and valuable coastal resources.

Litigation

Ninth Circuit Upholds Corps Issuance of After-the-Fact Permit

David E. Ortman
N.W. Friends of the Earth
Seattle, WA

Washington State environmentalists recently lost an eight-year fight to force ITT Rayonier, Inc. (Rayonier) to restore wetlands in Grays Harbor which were filled without a Clean Water Act §404 permit. The Ninth Circuit Court of Appeals upheld the Army Corps of Engineers' issuance of an after-the-fact permit authorizing the fill activity as part of a log storage area, *Friends of the Earth v. Hintz*, No. 84-4176 (9th Cir. Sept. 12, 1986). The Corps, according to the appellate court, did not act in an arbitrary and capricious manner in determining that the log storage activity was water dependent and that no practicable alternative sites existed. The Ninth Circuit also upheld as reasonable the Corps' determination that, with off-site mitigation, Rayonier's permit activity did not require preparation of an environmental impact statement (EIS).

Background

In June 1978, without first obtaining a §404 permit, Rayonier began filling a 17-acre wetland area with wood waste as part of its sawmill/sorting yard/log export complex located in the Grays Harbor estuary. Wood waste produces leachate which can be toxic to aquatic organisms. The wetlands site is contiguous with and drains into the Bowerman Basin, an area of international importance for migratory shorebirds and endangered peregrine falcons.

Upon learning about the fill activity, the Corps issued a cease and desist order prohibiting Rayonier from further filling. In the spring of 1980, the Corps requested and received comments from the federal resource agencies, all of whom recommended that the Corps take appropriate legal action to have the fill removed.

After the November 1980 election, however, these agencies reversed their positions and, together with the Corps and Rayonier, negotiated a mitigation agreement which would allow Rayonier to keep in place the toxic wood waste fill. The plan proposed that Rayonier pursue the purchase of 17 acres of pasture land located on the Elk River and then transfer title to the Washington Department of Game (WDG); the land would be restored to wetlands to offset the wetlands loss due to the fill. However, acquisition of the Elk River site was not a prerequisite to issuance of the permit. Instead, if Rayonier did not purchase the site within six months, the agreement only required Rayonier to pay $25,000 to WDG, who would purchase the Elk River site or a comparable site. (Although the property was purchased and conveyed to WDG in August 1983, a dike has yet to be breached and thus no wetland restoration has taken place.)

As part of its determination of whether the proposed project complied with the Environmental Protection Agency §404(b)(1) guidelines, the Corps directed Rayonier to submit information concerning the need for a log storage area. According to Rayonier, its Grays Harbor facility is an "integrated complex," such that the log storage area is used both for domestic and export purposes, must be situated "near the dock," and thus is water dependent. Also, Rayonier listed four possible alternative sites, but rejected two as logistically impractical and argued that the remaining two sites would mean substantial additional costs.

In April 1982, the Corps issued its §404(b)(1) evaluation which concluded that the log storage area was a water dependent use and that no feasible alternatives existed. It also determined that, under Rayonier's leachate control plan, leachate would continue to degrade Bowerman Basin water quality for many years.

Pursuant to the Corps' request, Rayonier in August 1982 submitted a §404 permit application. Because of recent changes in the Corps permitting regulations, the public notice neither included requirements for compliance with the National Environmental Policy Act (NEPA) nor requested any information regarding preparation of an environmental assessment (EA). The federal resource agencies neither supported nor opposed the permit, provided that it was conditioned upon the mitigation agreement being incorporated into the permit application. Friends of the Earth (FOE), however, did object to issuance of the permit. Next, the Corps issued an EA, which concluded that, with the required mitigation, the permit would have "no significant impact on the human environment" and therefore, "no [EIS] was needed."

On January 10, 1983, the Corps issued a §404 permit to Rayonier. In May, a coalition of environmental groups led by FOE filed suit against the Corps, alleging violations of NEPA, the Clean Water Act, and several other federal statutes. The district court granted the Corps' motion for summary judgment and FOE appealed.

Circuit Court Ruling

The Ninth Circuit affirmed. Initially, it ruled that the district court properly limited review of the agency action to the 639-page administrative record. Next, the appellate court held that it must review the Corps' permit issuance decision under the "highly deferential" arbitrary and capricious standard, and "may not set aside agency action . unless there is no rational basis for the action."

Turning to the merits, the Ninth Circuit rejected FOE's claim that the Corps' decision was arbitrary and capricious because: the permit activity is not water dependent; practicable alternatives to the permit area existed; and the activity would have an adverse effect on water quality. Much of the court's discussion focused on whether the Corps had met its obligation to independently review material supplied by the permit applicant.

- *Water Dependency.* According to the appellate court, the Corps engaged in a reasonably thorough examination of the issue and reached a rational conclusion. The record revealed that, "after a substantial exchange of information, the agencies agreed with Rayonier that its log storage activity was related to export, and hence, by their own definition, a water dependent activity." In a footnote, the circuit court accepted Rayonier's argument that the site could also be used for domestic log storage. While such a use admittedly is not water dependent, the court concluded that, "efficiency dictates that the storage function not be divided, because logs are not initially segregated between domestic and export."

However, it should be noted that, while Rayonier stated that log storage "near the dock" was essential for its export operations, the Corps actually went further and found that such operations require "immediate proximity to navigable waters." The District Engineer (and the court) apparently ignored the fact that the log storage site was located roughly three-quarters of a mile from the export dock and, thus, actually was not in "immediate proximity" to water.

- *Practicable Alternatives.* The Ninth Circuit determined that, based on the record, the Corps made the proper analysis and weighed the correct factors in making its determination that there are no practicable alternatives which would satisfy the permittee's logistical needs and are not prohibitively expensive. That the Corps didn't err by considering Rayonier's costs was supported by the §404(b)(1) guidelines, which explicitly require consideration of cost, existing technology, and logistics in light of overall project purposes, and by *Louisiana Wildlife Federation, Inc. v. York*, 603 F. Supp. 518 (W.D. La.), *aff'd in part and vacated in part*, 761 F.2d 1044 (5th Cir. 1985), where the district court rejected the argument that the Corps must consider alternatives solely in terms of environmental impact, and instead ruled that "it must take into account the objectives of the applicant's project." Nonetheless, the Ninth Circuit appeared to place the Corps' alternatives determination beyond judicial review when it stated that, "[w]hile an argument can be made that one of [the four proposed alternative] sites was suitable, it would not be appropriate for us to overturn the Corps' contrary findings. The Corps complied with its 'duty under law' and its decision is not subject to reversal."

- *Water Quality.* The circuit court held that, under the Corps permitting regulations, state certification of compliance with Clean Water Act water quality standards is conclusive with respect to water quality considerations. Thus, FOE was foreclosed from raising the water quality issue with respect to Rayonier's §404 permit. The court appeared to ignore the clear language in the Corps public notice that the permit decision would be based on a evaluation of probable project impacts including water quality.

The Ninth Circuit also rejected the environmentalists' contention that the Corps violated NEPA and the Clean Water Act by failing to gather its own information and instead basing its permit decision exclusively on the information supplied by Rayonier:

> We conclude that the Corps satisfied its duties under the regulations; to require anything further would place unreasonable and unsuitable responsibilities on the Corps. . . . Certainly, we do not condone blind acceptance by the Corps of Rayonier's or any other applicant's study of alternative sites. But the record does not show, as appellants contend, that the Corps uncritically accepted Rayonier's assertions. The Corps justifiably and legally relied primarily upon the study prepared by Rayonier, and its review of that study satisfied regulatory requirements. Further, the Corps sought and obtained the expert views of the resource agencies involved.

In addition, the court appeared to view as signficiant the fact that the Corps' determination of no practicable alternatives was supported by the conclusions of the various resource agencies.

Turning to the NEPA claim, the circuit court upheld as reasonable the Corps' determination that, with the mitigation plan, Rayonier's permit activity did not require preparation of an EIS. It rejected as moot FOE's contention that the plan was not sufficient to excuse preparation of an EIS since it imposed no mandatory duty on Rayonier other than payment of money to WDG. Because Rayonier had, in August 1983, purchased the Elk River site and conveyed it to WDG, FOE's concern that the mitigation plan would result merely in payment of money, with no provision for alternative wetlands, no longer raised a justiciable controversy. Unfortunately, the fact that wetlands restoration has yet to take place at the Elk [illegible]er site was not before the appellate court.

The Ninth Circuit also rejected the claim that off-site mitigation is insufficient to excuse preparation of an EIS, holding instead that "mitigation relating to a different parcel of land than that directly affected by a project may under appropriate circumstances constitute mitigation that serves to relieve the Corps of the obligation of preparing an EIS." In the court's view, it was sufficient that both the Corps permitting regulations and the Council on Environmental Quality NEPA regulations explicitly allow off-site mitigation, even though those regulations are silent regarding whether such mitigation can excuse preparation of an EIS. The appellate court went on to conclude that its NEPA ruling obviated the need to decide whether the district court properly ruled that the environmentalists had waived their NEPA claims by failing to request preparation of an EIS in their comments on the Corps public notice. As stated above, that public notice made no reference to NEPA requirements.

In conclusion, the Ninth Circuit indeed did apply a "highly deferential" standard when reviewing the Corps' decision to issue the after-the-fact permit and not to prepare an EIS. Also, the court appeared to rely heavily on the fact that no resource agency was willing to stand up in opposition to the Corps' permit issuance decision.

Unfortunately, as a result, Grays Harbor is left with a wood waste fill which will continue to degrade the Bowerman Basin water quality, and an off-site mitigation area that, eight years after the loss of the productive wetlands acreage filled by Rayonier, remains diked. Moreover, the Corps has given a clear signal to industry that it will not be penalized if it fills first and gets permits later. All-in-all a bitter harvest indeed.

20 November 1988

Seattle Post-Intelligencer

The voice of the Northwest since 1863

Editorials

Wetlands threatened

The trouble with a welcome new effort to save the nation's precious and fast-disappearing wetlands is the discrepancy between its admirable goal and the means proposed to attain it.

An alliance called the National Wetlands Policy Forum includes representatives from government, industry, real estate development, oil, timber, agriculture and environmental organizations. It was set up a year ago by the Conservation Foundation at the request of the Environmental Protection Agency.

Bringing these often competing interests together to publicly recognize the importance of wetlands and the need to preserve them is genuine progress. So is the Forum members' united stand in proposing a national goal of "no net-loss of wetlands."

But praise for the effort must be tempered with concern. The alliance proposes to allow development of wetlands providing that a new wetlands area equal in size and value is restored or created. And it would give the responsibility of wetlands protection to the states, instead of leaving it with the federal government.

Wetlands are unique. They provide spawning grounds for 60 to 90 percent of the nation's commercial fish catch, replenish groundwater, filter out pollutants from surface water, help control erosion and flooding, support birds and wildlife and nurture creatures of the sea and land. Allowing such a complex natural wonder to be lost on the promise that it can be reproduced on demand is a deceptive and foolish gamble.

So too is the hope that states are better able to resist local pressure for development than federal agencies. As David Ortman of Friends of the earth warned, transferring EPA's authority over wetlands to the states would invite development instead of deterring it.

27 September 1989 Seattle Times

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Radar site would cover 2,000 acres of wetlands

by Bill Dietrich
Times staff reporter

A radar installation being planned for Alaska may require the biggest single wetlands fill in the U.S., the Environmental Protection Agency has concluded.

However, plans by the Air Force to improve wetlands elsewhere in Alaska, use gravel pit mines as fish habitat, and widen the mesh of giant radar screens to allow migrating birds to fly through should address most concerns, said Brian Ross, who is reviewing the $400 million project for the EPA.

"Frankly, just about all of Alaska except for the mountains is wetland," said Lt. Col. Lee Cheshire, manager for the wetland project. "For what we fill, we're going to provide higher quality wetland in return."

The project is part of a $2 billion nationwide system to extend radar coverage from U.S. coasts out as far as 1,800 miles and allow better detection of low-flying aircraft by bouncing radar beams down from the ionosphere.

Being investigated is whether the new radar in the southern U.S. could be useful in tracking drug-smuggling aircraft from Latin America, Cheshire said.

In Alaska, the radar involves two sites near Tok and Glenallen with a series of antennae that would be like giant mesh fences 100 feet high, totaling five miles long. The operations center with radar scopes would be at Elmendorf Air Force Base near Anchorage.

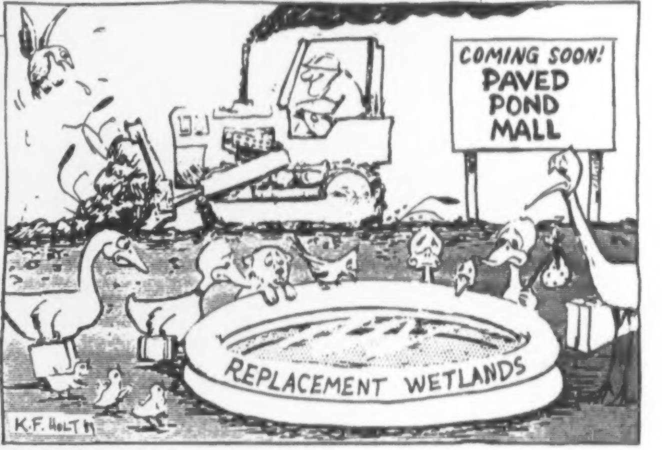
To build the installation on 2,000 acres of muskeg – bogs or marshes containing thick layers of decaying vegetable matter – the Air Force must mine 15 million cubic feet of gravel. Proposed is flooding the gravel pits and using them for fish habitat.

The Air Force also proposes spending $10 million to $20 million to widen the mesh of its giant antenna to prevent migrating birds from being trapped.

Ross said the wetlands are not the classic marshes that serve as breeding places for birds.

The Air Force hopes to begin construction in 1990 and have the system operating by the mid-1990s.

Can mitigation help protect wetlands?



by Kathy Frank

Mitigation—a kind of reciprocity that has little to do with Christmas and everything to do with the environmental impacts of development—is one aspect of environmental impact assessment that strikes as many different chords in the environmental community as a church organ on Sunday.

According to research carried out by Dorsay Fischer, a graduate student at Evergreen College and a Wetlands Watch volunteer, the process of mitigation represents a systematic approach to avoiding or compensating for the environmental effects of development and other land-use projects.

Avoidance is always the first choice, by either denying the project or choosing an alternate site. If avoidance is not possible, the developer attempts to reduce or to moderate the impact by scaling down the project or by modifying project design. For example, existing trees would be left or new ones planted to serve as a buffer between the wetland and development.

Finally, if negotiations for the above are unsuccessful, compensation for the unavoidable impacts on the environment must be negotiated. Most of the controversy arises over this last alternative.

Compensation for wetland impacts usually takes one of three forms: (1) the creation of a new wetland, (2) the restoration of a degraded or destroyed wetland, or (3) the enhancement of one or more functions or values of an existing wetland and/or its buffer. Other less frequently used forms of compensation include preservation of other wetland areas, monetary compensation for lost wetlands, and mitigation banking (a complicated form of "off-site" compensation).

According to Fischer, the least complicated form of compensation and the one most likely to succeed is enhancement. Wetlands **enhancement** usually involves alteration of a wetland area to enhance one or more values. One enhancement project might be the formation of an open-water pond in the center of a marsh, thereby diversifying the wetland habitat and attracting a greater variety of wildlife species to the wetland.

Conversely, the most difficult form of compensation and the one most likely to fail is **creation** of a wetland. Creation of a wetland may be "on-site" or "off-site," and "in-kind" or "out-of-kind."

On-site or off-site creation simply means that the new wetland is on the same site as the affected wetland, and off-site means it is created elsewhere.

In-kind creation means that the newly created wetland replicates the vegetation and other characteristics of the wetland lost to development; out-of-kind does not.

Off-site and out-of-kind wetland creation are, by and large, the most unfavorable form. Ensuring just compensation for the lost wetland values is often difficult to do. Also, by moving the compensation off site, benefits such as flood storage, flood conveyance, and habitat are lost from the original site. Oftentimes a stipulation is made that the off-site wetland be created within the same drainage basin in order to retain as many functions as possible.

At the same time, on-site and in-kind creation of a wetland is an extremely complicated, lengthy, and risky process, which elicits a considerable degree of cautiousness on the part of government agency staff at the federal and state level. Wetland creation and restoration often require a commitment of agency dollars and time that simply do not exist.

Fischer found that a major rethinking of the mitigation issue took place at the federal level, brought about by a survey of mitigation projects administered by the U.S. Army Corps of Engineers in Washington State from 1980 to 1986. The results showed that:

(1) one hundred and fifty-two acres of natural wetlands were traded for 100 acres of created or restored wetlands;

(2) there was a net loss of wetland diversity, with 73 wetland habitat types being replaced by only 49;

(3) additional wetland losses were caused by time lags between wetland destruction and replacement, and of the 35 projects surveyed only two had mitigation completed prior to destruction of the original wetland;

(4) monitoring of the mitigation process was only required in 18 of the 35 projects and was actually performed in only 11, resulting in five wetlands never being created or restored as negotiated;

(5) contingency plans (should the original plan fail) were only required in three of the 35 projects, and

(6) nearly half of the mitigation plans failed to formulate any substantive criteria for project design.

These results, Fischer concludes, clearly illustrate why mitigation has failed to do what it was designed to do: protect wetlands.

Wetland scientists and managers claim that poorly defined objectives going into the mitigation process and inexperience with mitigation are enough to spell failure for most mitigation projects before they even leave the negotiating table.

According to Friends of the Earth (FOE) research associate Rita Ordonez, the process of mitigation presents an even greater challenge because it is often misused by developers as a way to "sneak in the back door": development effects on wetlands are "mitigated" for on paper, while in reality no mitigation takes place.

Under the State Environmental Policy Act (SEPA), projects that significantly impact the environment require the preparation of an environmental impact statement (EIS). In order to circumvent this requirement, developers sometimes change the project plans to eliminate any adverse environmental effect, thus the project receives a "determination of nonsignificance" (DNS) by the reviewing agency. This effectively eliminates the requirement for an EIS.

Friends of the Earth conducted a review of development projects in Washington State from 1987 to 1989 to find out how SEPA deals with development projects affecting wetlands. They found that in most cases, such projects received no environmental impact statement review.

The Department of Ecology publishes a weekly SEPA register, which includes all DNSs and draft and final EISs. Out of 114 SEPA registers, FOE found only ten projects affecting a wetland site for which a final EIS was prepared. Five hundred and fifty six projects affecting wetlands were issued DNSs. In King County alone over the past two years, only two final EISs were prepared for projects on wetland sites, compared to 136 DNSs.

According to Ecology, however, it is important to note that although few final EISs were prepared, many wetlands projects receiving DNSs did involve some mitigation.

Fischer found that some untested mitigation policies now exist among local governments, such as Island County, and similar policies are proposed for King and Snohomish counties. King County seems to be the only one with any hands-on experience with mitigation. The county's involvement has mainly been with enhancement projects, and it has already experienced lack of funding for monitoring, time lags of up to one year after wetland destruction, and lack of a tracking and evaluation system for the mitigation process itself.

Ordonez maintains that, based on FOE and Environmental Protection Agency (EPA) findings, mitigation is rarely successful in replacing the wetland values and functions that are destroyed by development. Further, says Ordonez, as long as the process of mitigation is used as a "back door" by developers to circumvent real compensation for lost wetlands, the public will not get a true environmental review of development projects in wetland areas. Ordonez recommends that public comment periods be extended beyond the 15 days for DNSs and 30 days for draft EISs.

The Department of Ecology recognizes the need for tracking mitigation projects, and it has held extensive meetings on the mitigation issue to aid with formulation of wetland standards.

In the meantime, it appears that some consensus must be reached before wetlands receive the kind of protection that they deserve in Washington State.

Ordonez says that hope for the future protection of wetlands really lies in the passage of a strong wetlands protection act at both the state and national level.

Fischer agrees, but holds that to exclude the use of mitigation entirely would be to deny the inevitable effects of development on our wetlands and sensitive areas. Rather, she concludes, we should become knowledgeable about the issues and use that knowledge to bring about the adoption and enforcement of the highest standards of mitigation possible.

This much is for certain: Great care must be taken when attempting to replicate complex and diverse natural systems such as wetlands, which have often taken hundreds or even thousands of years to evolve. Any attempts at replication must involve long periods of monitoring to verify the viability of the biological dynamics of the wetland, so that the mitigation proponent is held responsible for the long term.

Much uncertainty remains. Is it possible that, without adequate mitigation policy, the environmental community's goal and Governor Gardner's promise of "no net loss" of wetlands will never be realized?

President George Bush's remarks to the Ducks Unlimited Sixth International Waterfowl Symposium:

"It's time to stand the history of wetlands destruction on its head. From this year forward, anyone who tries to drain the swamp is going to be up to his ears in alligators."

City to chip in on wetlands park plan

$217,000 *pledged to help Spectra Physics*

By BILL BISHOP
The Register-Guard

The Eugene City Council voted unanimously Wednesday to spend $217,000 to purchase a wetlands park to help Spectra Physics create new wetlands to make up for those lost when the company's Eugene plant was built 10 years ago.

The council left undecided where it will get the money but agreed to discuss several options, including an "experimental" urban renewal district, at a March 14 meeting.

John O'Brien, Spectra Physics retail systems division manager, said the city's commitment to the project is "very acceptable" regardless of the funding source adopted.

Spectra Physics' growth has been stifled by federal environmental regulations requiring developers to replace each acre of wetlands they develop with one acre of new wetlands.

When the mitigation project is completed later this year, Spectra Physics will be poised to begin construction of a $2 million building next year and possibly another $6 million building later in the decade, Eugene Chief Planner Jim Croteau told the council.

The two new plants will create another 750 jobs, he said.

The city, state and company will split the estimated $650,000 cost to create 27.5 acres of new wetlands northwest of the company's plant in West Eugene.

The new wetlands will be deeded to the city as an "environmental park," where bike paths and other improvements may be added.

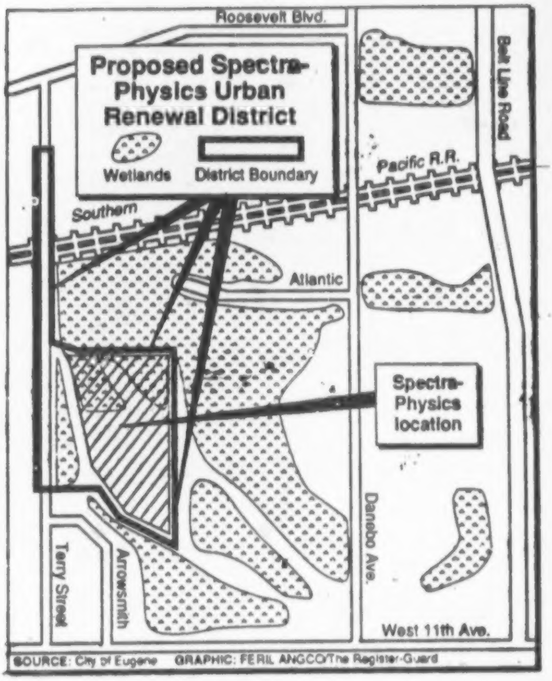
The council will consider several options for financing the wetlands expansion, including creation of an urban renewal district around the plant and the proposed wetlands.

Other options may include an appropriation from the general fund or the capital improvement account.

If approved, the urban renewal district could produce as much as $1.2 million in tax increment financing in a 10-year period for improvements around the plant and the environmental park.

Tax increment financing describes the

Turn to WETLANDS, Page 4B



SOURCE: City of Eugene GRAPHIC: FERIL ANGCO/The Register-Guard

process in which tax values within an urban renewal district are frozen and additional taxes from improvements made within the district accumulate to pay for projects that support the district.

In this case, the council is considering using tax increment revenue to improve and extend Terry Street north of the plant and to build bike paths and other amenities in the new environmental park.

But council members are divided over use of an urban renewal project for improvements that may be perceived by the public as benefiting one specific industry.

Councilman Rob Bennett, who opposes the plan, said a similar justification might be contrived to create urban renewal districts for any number of industries in the community.

"The risk we take here is that we lose the confidence of the public in how we use this (urban renewal district) option," Bennett said.

"I think this is a very wrong kind of precedent to set."

Bennett and other opponents of the plan stressed their support for the city's commitment to help alleviate the company's wetlands dilemma.

Council members who support creation of an urban renewal district describe the idea as a creative way to deal with the wetlands issue and to acquire and improve more public park lands.

Eugene's wetlands problem is one of the most critical in Oregon because the city has spent $12 million for sewers and streets in West Eugene, expecting it to be the site of new industry.

However, recent interpretation of federal wetland regulations showed that 465 acres of industrially zoned land in the area are wetlands.

Councilwoman Ruth Bascom said the use of an urban renewal project to add parks, bike paths and streets in the area "is too good an opportunity to pass up."

However, other council members suggested the district's scope be limited to the acquisition of the environmental park.

Council members directed City Manager Mike Gleason to compile information about possible sources of money in the city budget to cover the city's $217,000 commitment.

They also instructed city staff members to prepare more information about a possible urban renewal district for the March 14 meeting.

SECTION
B
Friday
March 16, 1990•
Seattle Post-Intelligencer

Local/Region

Funerals B2
Weather B4

Wetlands protection law upheld

Court dismisses church's challenge

By Larry Werner

OLYMPIA – The Washington Supreme Court yesterday dismissed a challenge to King County's wetlands protection ordinance, bringing praise from county officials and state lawmakers who said it would strengthen environmental laws.

The ruling was viewed as a shot in the arm by proponents of a statewide wetlands protection law, an effort that currently is stalled in the Legislature.

The court ruled against a claim by the Presbytery of Seattle that a King County ordinance protecting wildlife habitats is an impermissible restriction of property rights because it prohibits property development. The county need not compensate the property owner in such circumstances, the high court ruled.

"Mere regulation on the use of land has never constituted a taking or a violation of due process under federal or state law," the high court said in its unanimous ruling upholding a lower court.

The court also agreed the Presbytery had failed to exhaust all administrative remedies available to it.

The Presbytery wanted to use its 4.5 acres of land in the Hylebos wetlands near Federal Way to build a church and provide parking.

But county officials argued that the marsh area is more than 12,000 years old and is one of the last major wetlands in the Federal Way area.

The area contains one of the few old-growth cedar bogs left in the Pacific Northwest.

The marsh area comprised only about one-third of the Presbytery land. But the court said a land-use regulation "which prohibits development of one portion of an undivided parcel of property does not necessarily constitute a taking" of an entire parcel of property.

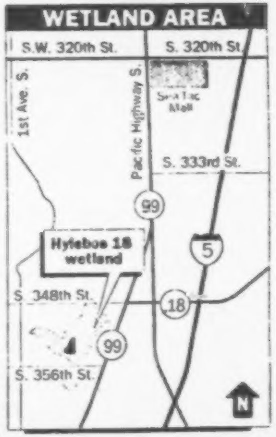
In so ruling, the court removed what county officials viewed as an obstacle to environmental protection, one used in a previous case that overturned a Seattle greenbelt ordinance.

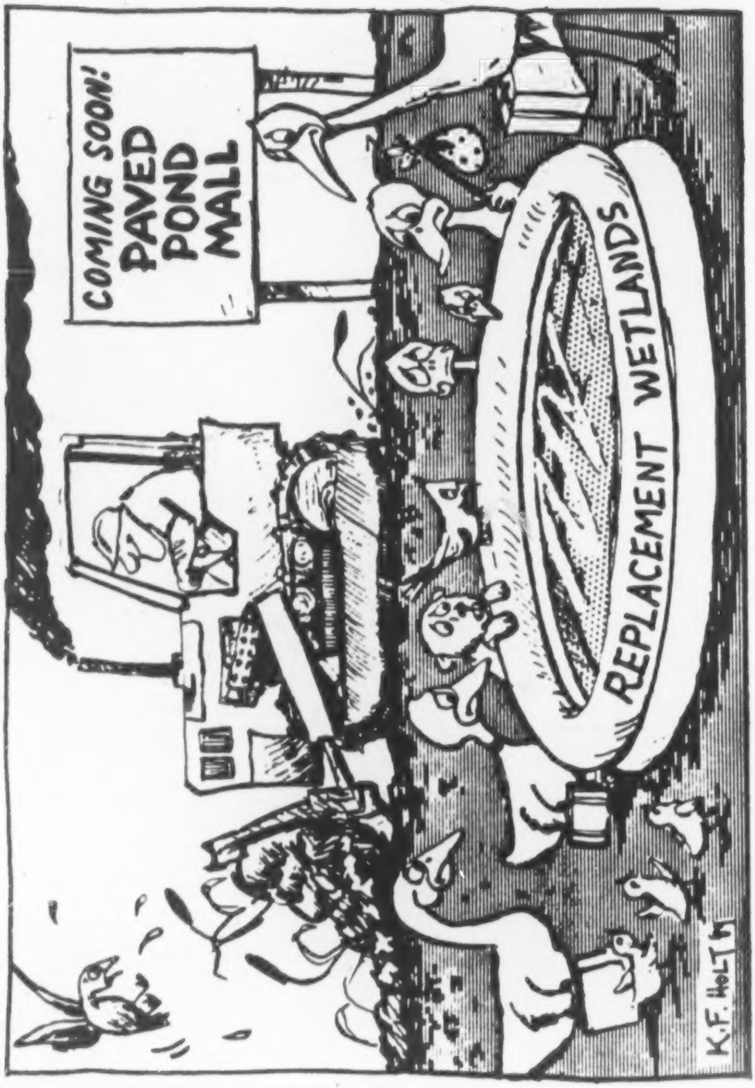
"This gives me great hope that the environmental legislation pending before the (King County) Council is on sound legal footing," said County Council member Cynthia Sullivan.

She said a court ruling to the contrary "would have had a chilling effect" on county environmental protection efforts.

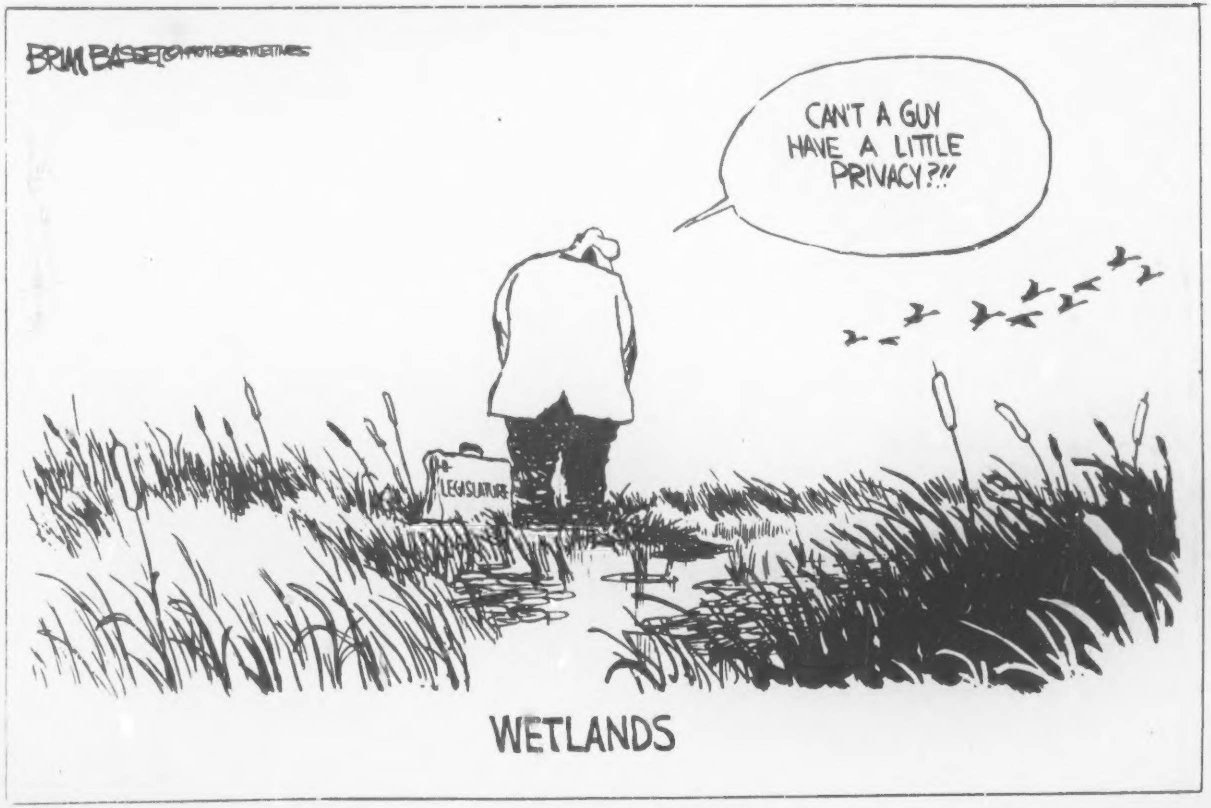
The county council is considering a sensitive-areas ordinance that would enact even tougher regulations to protect wetlands, streams and steep slopes from development.

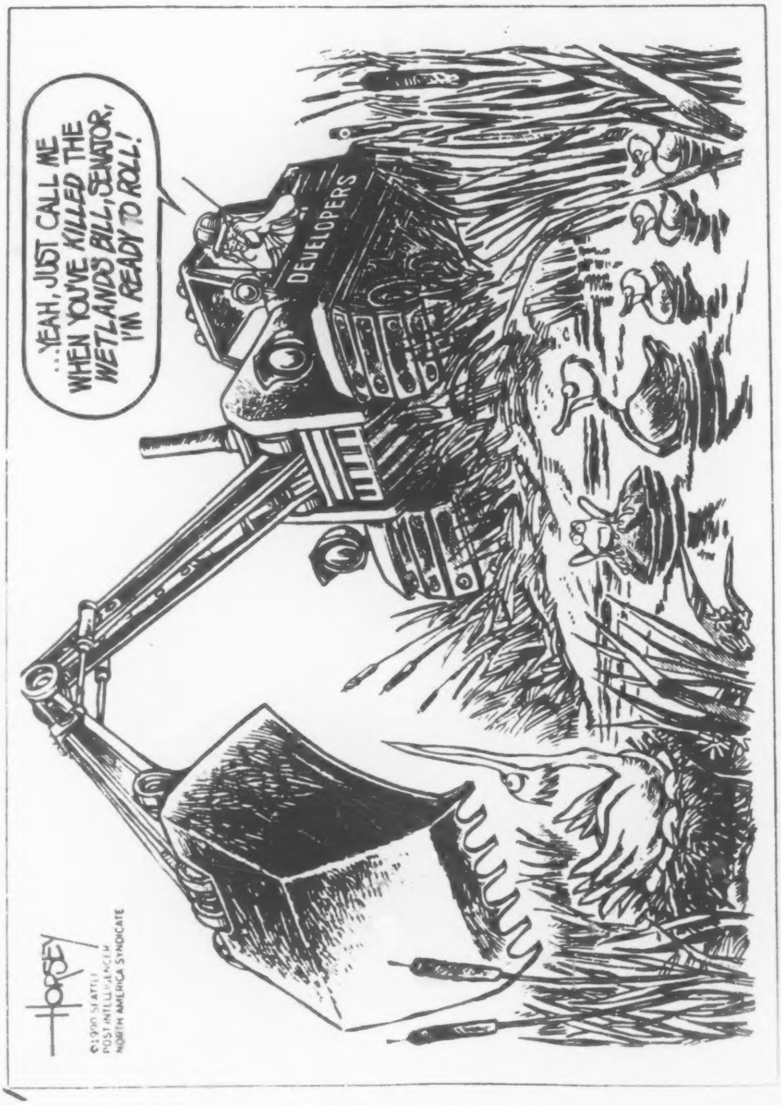
Supporters of state laws to protect wetlands said the court ruling also might help to remove objections in the Legislature that a wetlands law could be considered by the courts to be taking property.




COMING SOON! PAVED POND MALL
REPLACEMENT WETLANDS
K.F. HOLT

A 8 The Seattle Times Friday, March 16, 1990


BRIAN BASSET
CAN'T A GUY HAVE A LITTLE PRIVACY?!!
LEGISLATURE
WETLANDS


...YEAH, JUST CALL ME WHEN YOU'VE KILLED THE WETLANDS BILL, SENATOR, I'M READY TO ROLL!
DEVELOPERS
HORSEY
©1990 SEATTLE POST-INTELLIGENCER NORTH AMERICA SYNDICATE

• Seattle Post-Intelligencer Wednesday March 14 1990

SECTION 404 PERMITS DENIED
(Source: Monthly Notice of Permits Issued, Denied Or Withdrawn

PORTLAND DISTRICT	SEATTLE DISTRICT	OMAHA DISTRICT	WALLA-WALLA DISTRICT
1985			
Jan - 1	Jan - 0		
Feb - 1	Feb - -		
Mar - 1	Mar - -		
Apr - 0	Apr - 0	Apr - 0	
May - 1	May - 1	May - 0	
Jun - 0	Jun - 0	Jun - 2	
Jul - 0	Jul - -	Jul - 0	
Aug - 2	Aug - 0	Aug - 0	
Sep - 0	Sep - 0	Sep - 1	
Oct - 0	Oct - 0	Oct - 0	
Nov - 1	Nov - 0	Nov - 0	
Dec - 0	Dec - 0	Dec - 0	
1986			
Jan - 0	Jan - 0	Jan - 0	
Feb - 0	Feb - 1	Feb - 0	
Mar - 1	Mar - 1	Mar - 0	
Apr - 0	Apr - 1	Apr - 1	
May - 1	May - -	May - 1	
Jun - 0	Jun - 1	Jun - 0	
Jul - 0	Jul - 0	Jul - -	
Aug - 1	Aug - 0	Aug - 0	
Sep - 0		Sep - 0	
Oct - 0		Oct - -	
Nov - 0		Nov - 0	
Dec - 0		Dec - 3*	
1987			
Jan - 0	Jan - 0	Jan - 1	
Feb - 0	Feb - 0	Feb - 1	
Mar - 0	Mar - 0	Mar - 0	
Apr - 0	Apr - 1	Apr - 1	
May - 0	May - 0	May - 1	
Jun - 0	Jun - 0	Jun - 0	
Jul - 0	Jul - 0	Jul - 0	
Aug - 1	Aug - 0	Aug - 2	
Sep - 0	Sep - 0	Sep - 2	
Oct - 0	Oct - 1	Oct - 1	
Nov - 1	Nov - 0	Nov - 1	
Dec - 0	Dec - 0	Dec - 0	Dec - 0

1988			
Jan - 0	Jan - -	Jan - 2	Jan - 0
Feb - 0	Feb - 0	Feb - 1	Feb -1
Mar - 0	Mar - 0	Mar - 1	Mar - 0
Apr - 1	Apr - 0	Apr - 0	Apr. -0
May - 0	May - -	May - 0	May -2
Jun - -	Jun - 0	Jun - 0	Jun -0
Jul - -	Jul - 0	Jul - 1	Jul -0
Aug - -	Aug - 0	Aug - 4	Aug -1
Sep - 0	Sept -0	Sep - 1**	Sep - 1
Oct - 0	Oct - 0	Oct - 0	Oct - 0
Nov - 0	Nov - -	Nov - 1	Nov - 1
Dec - 0	Dec - 0	Dec - 1	Dec - 0
1989			
Jan - -	Jan - 0	Jan - 0	Jan - 0
Feb - -	Feb - 0	Feb - 0	Feb - 0
Mar - -	Mar - 0	Mar -1	Mar -0
Apr - 0	Apr - -	Apr - 0	Apr - 0
May - -	May - 0	May - 0	May - 0
Jun - 0	Jun - 3	Jun - 0	Jun - 1
Jul - -	Jul - 0	Jul - 0	Jul - 0
Aug - -	Aug - 0	Aug - 0	Aug - 1
Sep - 0	Sep - 0	Sep - 0	Sept- 1
Oct - -	Oct - 0	Oct - 0	Oct - -
Nov - -	Nov - 1	Nov - 0	Nov - -
Dec - -	Dec - -	Dec - 0	Dec - -
1990			
Jan - -	Jan - -	Jan - 0	Jan - 0
Feb - -	Feb - -	Feb - 0	Feb - -
PORTLAND 13 Section 404 denials out of 48 recorded months	SEATTLE 11 Section 404 denials out of 47 recorded months	OMAHA 28 Section 404 denials out of 57 recorded months	WALLA-WALLA 9 Section 404 denials out of 23 recorded months

*For same project

**Permit Withdrawn

NORMAN SISISKY
4TH DISTRICT, VIRGINIA

ARMED SERVICES COMMITTEE
PROCUREMENT AND MILITARY NUCLEAR SYSTEMS SUBCOMMITTEE
SEAPOWER AND STRATEGIC AND CRITICAL MATERIALS SUBCOMMITTEE
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SMALL BUSINESS COMMITTEE
CHAIRMAN EXPORTS, TAX POLICY AND SPECIAL PROBLEMS SUBCOMMITTEE

SELECT COMMITTEE ON AGING

Congreſs of the United States
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Washington, DC 20515

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EMPORIA, VA 23847
804-634-5575

March 19, 1990

The Honorable Henry J. Nowak, Chairman
Public Works and Transportation
  Subcommittee on Water Resources
B370A Rayburn HOB
INSIDE MAIL

Dear Chairman Nowak:

I want to thank you for providing me with the packet of information concerning the wetlands issue. I found the material to be informative and useful.

In addition, I was pleased to know that you chose to hold further hearings on the topic of wetlands. Unfortunately, I was unable to testify personally before your subcommittee. Therefore, I respectfully request that you place the enclosed statement in the record of the March 13th Water Resources Subcommittee hearing on wetlands regulation.

Again, I appreciate all the help you've given me. If I can be of any assistance to you in the future, please don't hesitate to let me know.

Sincerely,

Norman

NORMAN SISISKY
Member of Congress

NS/ds
Enclosures

Testimony of Rep. Norman Sisisky

To be placed in the record of the March 13, 1990 Public Works and Transportation Subcommittee on Water Resources hearing on **Wetlands** -- Tuesday, March 13, 1990, 10:00 am.

* * *

Mr. Chairman: I want to thank you for allowing me to present the subcommittee with concerns that have been raised by several of my constituents regarding wetland classification.

I represent the Fourth Congressional District of Virginia, a area which has done well over the last several years, and has tremendous potential for growth in the very near future. Much of my district is in the "Tidewater" region of Virginia, and therefore is at the center of the wetlands debate.

This potential -- indeed my district's future -- has been put in jeopardy by the recent re-evaluation of wetlands by certain federal agencies.

Within the last several months, my office has received several letters and telephone calls expressing concern about the revised federal position on wetlands. As a matter of fact, within the last five days, the economic directors of the four largest municipalities in my district, in which over 75% of my constituency lives, have urgently requested my assistance in dealing with the wetlands problem. The reaction of these constituents range from disbelief and frustration to down right fear.

I am concerned that these recent changes in the definition of wetlands have caused a great amount of confusion. Take for example the situation of the Superintendent of Chesapeake Public

Schools. The superintendent has sent me a letter detailing how the school system entered into an agreement in 1980 to purchase 72.79 acres -- a campus -- on which it planned to build two schools. The high school was completed in 1983; however, construction of the on-site intermediate school has been indefinitely halted due to a recent Army Corps of Engineers determination that wetlands are present on the property. Even though the City of Chesapeake has previously obtained approval for a major drainage improvement canal through this property, and the property is generally of high elevation and well above the flood plain, the building of this school has been blocked.

Believe me, I could give you example after example of how property was purchased by individuals thinking that they were relatively wetland-free, only to have the land reclassified as wetlands and become subject to restrictive federal regulation. Family after family, seeking to develop their own homestead properties, are in turmoil because they are finding that the rules have changed, and that they now are faced with onerous federal constraints.

Mr. Chairman, if these responses to recent changes in wetland regulations I've received are representative of what is happening across this country, it is important that we in Congress -- the representatives of the people -- make sure that the federal agencies involved don't lose touch with the human factor.

Let me be clear. I fully support efforts to adequately protect our wetlands. In fact, as a member of the Sunbelt Caucus Wetlands Task Force, I believe it is important to preserve such ecologically valuable areas. However, I also feel that we need to have a wetlands policy which will not preclude reasonable and necessary projects from moving forward. Since becoming a Member of Congress in 1983, I have always sought to develop an environmental policy which balances protection of our national resources with rational economic growth. In other words, I favor a policy that will keep in touch with the human element.

Thank you for the opportunity to share these thoughts with you.

NORMAN SISISKY
Member of Congress